THE JOURNAL OF AND & PUBLIC UTILITY ECONOMICS



If Henry George Were Writing Today
HAROLD S. BUTTENHEIM

Regulation of Municipal Electric Rates
H. ZINDER and WALTER E. CAINE

Adventures in Public Utility Accounting

Economic Characteristics of Blighted Areas
ASHER ACHINSTEIN

Taxation of Railroads in the Southeast

Marketing Electric Power

Value of Service and Utility Rates
CLYDE OLIN FISHER

Beginning With VOLUME XI

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THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS



If Henry George Were Writing Today

By HAROLD S. BUTTENHEIM

T

ROM the beginning of the 19th century until after the Civil war, great land fortunes were being built up in our rapidly growing American cities. During the second third of the century the tremendous expansion of railroads was being encouraged by huge land grants. Then and later franchises for street railways and other local utilities were being given outright by city governments or bartered for a pittance. Exploitation of natural resources—coal, lumber, oil, and the rest—was becoming widespread.

Henry George was a product of the 19th century and a witness of the injustice and hardships to the many resulting from the usurpation of "the good earth" and of the natural monopolies by the few. With a keen, inquiring mind—untrammeled and also unaided by academic instruction, but cultivated by reading, by wide foreign travel, and by economic experience of great variety—he set himself the task of unraveling the tangle of progress and poverty. His

innate sympathy with the sufferings of others was intensified by his own bitter privations, which had persisted in spite of his tireless energy and outstanding ability.

Henry George was living in California at the time when the western frontiers were disappearing, being swallowed up in land grants to special interests. He declared in 1871:

"Beginning with the Civil War period, a policy of dissipation of the public lands commenced, and so great have been the various kinds of grants, especially to the railroads, up to 1870, that, continuing at the same rate, all the available arable land will be given away by 1890. To a single railroad—the Northern Pacific,—25,600 acres have been given for the building of each mile of road . . . In California . . . free lands should be plentiful, yet the notorious fact is that so reckless has been the land policy that the immigrant in 1870 has, as a general thing, to pay a charge to middlemen before he can begin to cultivate the soil. Already individuals hold thousands and thousands of acres apiece. Across many of these estates a strong horse cannot gallop in a day, and one might travel for miles and miles over fertile ground where no plow has ever struck, but which is all owned, and on which no settler

can come to make himself a home, unless he pay such a tribute as the lord of the domain may choose to exact."

When George visited New York in the winter of 1868-9 the great land fortunes of the Astors, Goelets, Rhinelanders, and Schermerhorns had already been built up. In many instances land titles had been secured in a fraudulent manner. Once the property was obtained, the holders needed to do nothing but sit tight while the alchemy of the rapidly growing metropolis magically transformed their holdings into great wealth.2 Side by side with these giant fortunes were such evidences of widespread squalor and misery that Henry George made a vow to himself to discover the answer to the riddle of why poverty accompanies wealth in advancing civilization.

One day after his return to California, while riding a mustang pony in the Oakland foothills and gazing over the broad acres, a flash of inspiration came to him and he recognized that the seat of the evil was the "monopoly of the land, the locking up of the storehouse of nature." Out of this revelation was born the single-tax doctrine which was destined to create world-wide interest and to arouse fervent intensity of devotion in its adherents.

It was essentially a simple doctrine. Titles to land were ill-gotten in the first place. Second, ground rents and increase of land values were attributable to community development and to the expenditures of government and not to any services rendered by landowners as such. Third, private ownership of land resulted in a privileged class able to exploit the masses and to live in idleness through the toil of others. Abolish

private exploitation of land by taxing away all the economic rent and by freeing from taxation all improvements and other labor products. This was the simple formula which would germinate a millenium. Out of the evil of land exploitation most others sprang. Destroy it, and the attendant economic ills would disappear. Henry George looked around him and saw everywhere, in the mistaken land policy of the United States, evidence to support his theory.

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The world changes, century by century, and decade by decade. Open avenues to privilege in one generation may become congested in another. Human greed is opportunistic, and social science must be pragmatic. Mankind has lost much by burning the bodies of its prophets; it has often lost even more by embalming their words as universal and unchangeable truths.

Had Henry George been born a halfcentury later, he would have lived amidst a new set of economic conditions; he would have seen new forms of exploitation, and it is doutbful that he would have formulated his single-tax doctrine. Collection of the economic rent as a major source of public revenues might have been advocated as an essential, but not sole, element in a comprehensive scheme of taxation aiming to reach all privilege and anti-social wealth rather than merely one instance of it; for the author of Progress and Poverty, if writing today, could not fail to recognize the fact that conspicuous fortunes in the 20th century derive less than formerly from land ownership.

The economic world which would now confront Henry George is a very differ-

³ Henry George, Jr., op. cit., p. 220.

¹ From Summary of "Our Land and Labor Policy, National and State," contained in *The Life of Henry George*, by Henry George, Jr., (New York: Robert

Schalkenbach Foundation, 1931), pp. 220-1.

² Gustavus Myers, History of the Great American Fortunes (Pasadena: Kerr Co., 1910), Pt. II.

ent world from the one he so keenly analyzed 50 years or more ago. True to his predictions, before the end of the 19th century practically all available arable land had been given away. As a result, land grants had largely run their course. Moreover, franchises began to be less liberally bartered than in the old days, when the unscrupulous use of greenbacks could stimulate a legislature or city council to dispense these favors on most liberal terms. Though public utilities are still something of a dark continent, the 20th century finds them forced more and more into the light of publicity and subjected to continually increasing regu-The railroads, the economic tyrants of George's time, have been greatly curbed by government and by forms of competition then unknown.

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Speculation in city real estate, a phase of the land problem which greatly troubled Henry George, though not so obsolete as land grants nor so subjected to regulation as the utilities and the railroads, yet also shows signs of mitigation. Real estate boom periods are part of the growing pains of a new country, and as it becomes older and more stabilized they are less likely to occur. One cannot, however, forget the Florida boom of a decade ago. And it is significant also that dishonest flotation of "guaranteed" mortgage bonds based on inflated land values in many parts of the United States and the development of ill-planned or unneeded real estate subdivisions contributed greatly to the unearned fortunes of shrewd speculators during the boom years preceding the fall of 1929, and to the subsequent disastrous losses of innocent or foolish investors. Nor can it be doubted that such speculation was a major cause of the general collapse and of the special troubles of many industrial centers and agricultural regions during the current depression period.

Nevertheless, there are compelling reasons for believing that such speculation has permanently passed its peak. One of them is to be found in the rapid slowing up in population increase in the United States. The decennial increases in population from 1800 to 1880 fluctuated from 30.1 to 36.4%, with the exception of the Civil War decade, which marked a drop to 22.6%. For the decade ending in 1890 the rate of increase was 25.5%; in 1900 it was 20.7%; 1910, 21.0%; 1920, 14.9%; and in 1930, 16.1%. The increase of 1.2% in the last decade over that of the previous decennial period is attributable mainly to the shift in the time when the Census was taken.

The trend disclosed by these figures is the combined result of a declining birth rate and of a sharp decrease in the number of immigrants entering the country. Thompson and Whelpton predict such a slowing up of population growth in the United States that in 1980 the population will be almost at its maximum size with about 155,000,000 persons.⁴ Not only is the rate of population increase falling off, but the urbanization of the population is also proceeding at a diminishing rate, and there is a distinct trend toward suburban rather than congested city development.

These facts indicate that land speculation on the great scale of the preceding century is likely to become less and less profitable. From this it does not follow that the problem of progress and poverty is solving itself. It merely denotes a shift in emphasis. The shrewdness and selfishness of human nature make unceasing attention to our economic

⁴ Warren S. Thompson and P. K. Whelpton, "Population Trends in the United States," *Recent Social Trends Monographs*, 1933.

institutions necessary if social welfare is to advance. New exploiters are sure to arise with every generation. If they are born in a country where land has already been preempted, they will seek other means of mulcting their neighbors.

A significant list of current sources of personal aggrandizement, many of them not primarily dependent on land ownership or monopoly of natural resources, is the following, summarized from Stuart Chase's A New Deal:

SIXTEEN WAYS TO MAKE MONEY

The creation of an artificial monopoly and the raising of prices.

The tying up of a patent or a secret process and charging all that the traffic will bear. The ingenious overcoming of the interest

rate in selling credit to the wayfaring man. The manufacturing of a useless, adulterated, or even vicious product and creating de-mand for it by high-pressure selling and advertising.

Creation of a demand for a product which, good in its modest way, deserves no such price or no such use as advertising blasts out for it.

The creation of new fashions in costumes, fads, or novelties, and the astute manipulation of social pressure to market them.

The manufacture and manipulation of more or less dubious stocks and bonds and the unloading of the same upon the public by high-pressure methods.

Speculating in securities.

Speculating in land and natural resources.

Speculating in commodities. Promotion of parasitic industries.

Graft in politics. Graft in business.

Racketeering.

Dumping surplus production abroad. Rushing blindly in to compete when excess capacity already threatens the industry.

If Henry George were writing today, is it unreasonable to suppose that he would include, as additional elements in his scheme of taxation, dependence on steeply graduated income and inheritance taxes, to the end that existing wealth may contribute adequately to the support of government, and that

there may be a beneficial check on new types of exploitation which land-value taxation alone could not reach?

Ш

Great changes since George's time are evidenced not only by our shift from an agricultural to an industrial economy, by the diminishing rates of urbanization and of population increase, by increasing attention to the governmental regulation or ownership of public utilities, by the disappearance of free land, and by the devising of new means of exploitation, but also in the field of

economic theory.

Although Henry George had no formal academic training, he studied carefully the writings of classical economists. Of their doctrines he accepted wholeheartedly the theory of rent and rejected just as emphatically the wagefund theory. For his opposition to the latter doctrine he gives some credit to the work of his brilliant, but less spectacular, contemporary, Francis A. Walker, who strikingly refuted the wage-fund theory in his book on The Wages Question, published in 1876, three years before the appearance of Progress and Poverty.

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Both Walker and George denied that wages are limited by a fund created in advance by saving, and both showed that wages are paid mainly out of the products which labor concurrently pro-But George, like the classical economists, recognized only three factors in production—land, labor, and capital. In his theory of distribution there was no such thing as profits apart from rent, wages, and interest. The entrepreneurs, or great business executives and manipulators, whom Walker recognized as a fourth factor of production, were largely ignored in George's system of political

economy.

In spite of this oversimplification of the economic structure, the author of Progress and Poverty recognized, of course, the evils of concentrated capital. For example:

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gely tical "In the aggregation of large masses of capital under a common control, there is developed a new and essentially different power from that power of increase which is a general characteristic of capital and which gives rise to interest . . . Everyone knows the tyranny and rapacity with which capital when concentrated in large amounts is frequently wielded to corrupt, to rob and to destroy . . . Profits thus derived are not to be confounded with the legitimate returns of capital as an agent of production." 5

While economists now agree with Henry George in rejecting the wage-fund theory, few of them accept his simplified theory of distribution; and it is probable that he would present that subject somewhat differently, were he writing today. With unerring aim, however, the author of *Progress and Poverty* went to the heart of his problem when he said:

"The cause, which, in spite of the enormous increase of productive power, confines the great body of producers to the least share of the product upon which they will consent to live, is not the limitation of capital, nor yet the limitation of the powers of nature which respond to labor. As it is not, therefore, to be found in the laws which bound the production of wealth, it must be sought in the laws of distribution."

The realization of this truth is being forced more and more upon the world today. If our present economic system is to survive, production and consumption must be so balanced that the masses of mankind may be enabled to profit much more and to suffer far less than at present from mankind's progress toward the more abundant life.

IV

An unhopped hurdle to land-tax legislation has been the farmer's fence. In the states where land and improvements are assessed separately, the urban areas show more of their total valuation in improvements than do the rural areas. This ratio of improvement value to land value continues to mount until cities reach metropolitan size. It seems evident, therefore, that, if taxes were removed from improvements and placed wholly on the land, the property taxes of rural landowners would increase more in proportion than those of owners of urban land.

This differential against the farmer could be partly overcome by adopting Professor John R. Commons' recommendation that, in assessing farm land for taxation, fertility should be rejected in determining its value.

"His reason is that taxation should look to the future rather than to the past, and fertility is an element which the farmer must at all times maintain by his industry and his expenditure of capital. His examination leads him to the conclusion that, on the average, one-half of the value of the farmer's land rests in a value he, himself, must keep up. The tax, therefore, upon his land should be reduced 50 per cent before visible or semi-permanent elements are taken into consideration. Under any proper application of the principle of Professor Commons, the farmer's tax should rest on site value and nothing else. When this is done, the working owner will be placed upon the same plane as his city brother."7

But if rural land values were thus lowered, justice would require that urban real estate be likewise taxed only on its site value and not on improvements on or in the land or on benefit assessments paid by landowners. As a result of such rational reassessment, it seems quite certain that the tax base

⁶ Progress and Poverty, op. cit., pp. 192, 193.

⁶ Ibid., p. 154.

⁷ Jackson H. Ralston, What's Wrong With Taxation?, 1932, 2nd ed., p. 136.

would be so reduced as to render the economic rent thus computed quite inadequate as the sole source of public revenues.

Another problem of the farmers is puzzling many who recognize the fundamental justice of Henry George's major thesis. According to orthodox singletax doctrine, with land no longer held out of use by monopolists or speculators, inadequately paid industrial workers could always throw up their jobs and turn to agriculture. This would mean that the farmers, many of them already impoverished by surplus production, would be constantly menaced by an army of potential competitors. Such a contingency arouses little enthusiasm from either group. As a matter of fact, this opportunity, which was considered so important in the predominantly agricultural era in which Progress and Poverty was written, would probably prove valueless to most city workers and harmful to most farmers. Surely its author, if writing today, would be a vigorous opponent of the idea that a back-to-the-land movement can solve the complex problems of an industrial civilization. He would win the support of the farmers, I believe, by showing them that a scientific system of providing public revenues would so promote prosperity and lessen taxes on labor products as to raise both urban and rural employment to the maximum and reduce burdensome tenantry and cut-throat competition to the minimum.

V

If he had lived in the 20th century, Henry George could not fail to recognize recent progress in city and regional planning and zoning, and to suggest how the rational raising of public revenues would make this important movement more effective. Especially he

would allay the fears expressed by some of our most public-spirited land planners and workers for housing betterment as to the probable effects of site-value taxation. These advocates of spaciousness in city development are very propperly concerned lest a drastic shift in the incidence of taxation should create or perpetuate needless congestion of population in our urban areas. They cite Henry George's argument that governmental collection of the economic rent would force idle land into use; and they ask whether the result would not be to negative one of the cardinal principles of modern city and regional planning-the prevention of overcrowding.

With the economic insight he possessed, and with the added knowledge he would now have of recent legal devices for controlling land uses, Henry George's reply would, I believe, make

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(1) That site-value taxation for municipal revenue, by greatly reducing the cost and difficulty of land acquisition, would remove what now seems to be the economic need for congestion in land development; and the abolition of taxes on improvements would help greatly in solving the housing problem for the lower economic groups;

(2) That, as the late Oscar H. Geiger once suggested, in discussing the effect on land use of land-value taxation, the proper phrase to apply is not that such taxation would force idle land into use, but that it would reduce the holding of good land out of use; that there would be a readjustment whereby more desirable land would come into use and submarginal land drop out of use;

(3) That every community ought to determine for itself, through carefully drafted city planning and zoning laws, the maximum degrees of congestion it will permit in the development of pri-

vate property, and not leave such determination to the whims of selfish or

short-sighted exploiters;

(4) That a well-designed city plan does not imply the ill-balanced spaciousness induced by our present speculative practices; and that there is great economic waste in the needless spreading out of cities past miles of vacant lots with installation of street paving and utilities at public expense long in advance of a need which may never exist; and

(5) That the lowering of land costs through site-value taxation would also have the great advantage, which every city planner ought to welcome, of enabling municipalities to acquire much more ample areas for playgrounds, school sites, and other public open

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Henry George would also remind the city planners, I believe, that the social value of zoning ordinances in many cities is now largely nullified by the powerful pressure of reactionary real estate interests. Such pressure is exerted both when zoning ordinances are being drafted and in forcing subsequent amendments. Needlessly large areas are thus zoned for business and apartment house developments. Buildings are too often permitted to overcrowd the comparatively few lots on which they are erected, while much of the zoned area finds no better use than the growing of weeds, billboards, or hotdog kennels. If the principle were established that the added ground rents resulting from a zoning change would accrue to the city government, landowners would be much less likely to petition for such amendments contrary to the public interest.

VI

Had Henry George been born a half-

century later, his economic views would, I am sure, have been profoundly influenced by other subsequent inventions and trends. Among the A, B, C, D's of current knowledge, he would be aware:

(A) That recent technological progress has vastly increased productive capacity per acre of land, whether devoted to agriculture or industry;

(B) That structural steel and the elevator have multiplied manyfold the number of persons for whom office space or housing or hotel accommodations can be provided within the limits of existing cities;

(C) That 20th century means of transportation and communication—the automobile, the airplane, the telephone, and the radio—have stimulated a suburban trend which is greatly increasing the acreage of habitable land in all our metropolitan regions;

(D) That the factors just mentioned, coupled with our present ability to produce an abundance of low-cost electric current and to transmit it to regions heretofore remote, are constantly tending to lessen differentials in land values.

If the author of Progress and Poverty were writing today, can we doubt that he would weigh these trends in connection with our dwindling and perhaps vanishing population gains in the United States? And would not the inevitable conclusion be that, with much more land now accessible for use than an abundant life for all can possibly require, the economic rent of land as a whole will tend to diminish? For our inventions have virtually discovered a new continent of unused resources, and in a new continent ground rent is a less important economic factor than in an intensively developed region.

VII

There are still other reasons why I believe that Henry George would not expect today to be able to derive from a tax on land values alone all the revenues which could be wisely expended by our various units of government. If the economic rent of land is what is produced or producible on that land in excess of the productive capacity of any available free site and if government were to collect such economic rent, speculative land values would largely With their disappearance disappear. governmental revenues would be less than the huge sums that optimistic single-taxers often estimate. reflection will make this clear.

One of the most convincing arguments for site-value taxation is its wholesome discouragement of the speculative holding of land out of use. But most of the vacant land now speculatively held, if thrown on the market or taken by the government for delinquent taxes, would not produce an economic rent based on its present asking price or assessed valuation. Obviously, we cannot abolish speculative values and still collect taxes on speculative values. Hence, the economic rent actually collectible, while probably ample for the needs of municipal and county government, would be totally inadequate for the expenditures which our state and national governments ought to incur.

I say "ought to incur" because of my conviction that, if we are to attain and maintain prosperity and welfare for all, governmental spending for constructive and cultural purposes and for old age and disability pensions ought to be vastly more, rather than less, than at present.

Superfluous and socially injurious savings by individuals and corporations must be sluiced off by the government

and turned into wholesome community consumption. To accomplish this purpose the range of profitable public spending is wide and inexhaustible. Everywhere are communities that can become more convenient, safe, sanitary, and beautiful; in every state are regions that can be made more usable and accessible for production and pleasure; areas denuded of forests or subject to soil erosion or to devastation by flood that need reclamation or protection; grade crossings to be eliminated; roads that should become parkways; institutions that need modernizing; rivers that ought to be freed from the pollution of sewage and factory wastes; slums to be abolished and housing conditions to be bettered; educational, cultural, and recreational facilities that need enlarging and improving to meet the needs of an era which is banishing child labor and can provide more voluntary leisure for adults than the world has ever known.

Through these and other betterments will government-national, state, and local-enable its constituents to contribute to and enjoy a steadily rising standard of physical and intellectual When creative capacity remains life. idle, society loses in wealth much more than it saves in wages. Hence, for the nation as a whole, the net cost of these public works and services would be virtually nothing-perhaps actually less than nothing-if financed through the employment of brains, muscles, and equipment that would otherwise be unused.

And there are many things on which we shall spend less in future. As I pointed out in discussing "What Do We Want from Taxes?", in the August, 1934, Survey Graphic, we shall buy fewer penal institutions when we buy more playgrounds; fewer tuberculosis sanitoria when we have more neighborhoods

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of sunny homes; fewer insane asylums when we have achieved freedom from the fear of want. In future we shall pay less for correcting errors in the building of our cities, and more for plans whereby such errors may hereafter be avoided. The whole problem of securing efficient and really serviceable national and local governments depends more than most "reformers" realize on the abolition not only of waste but of want-and of war. Had Henry George lived through the World War, he would doubtless agree with his able California disciple, Jackson H. Ralston, who stated (in 1932):

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"It is highly probable that for many years to come, although land values were to be taxed to the limit, a large part of our revenues would of necessity be raised from other sources, and the reason for this is that fully 75 per cent of our national revenues are being spent for past or anticipated wars. These expenditures represent no corresponding addition to our maintenance of land values. We are therefore as to them constructing no basis upon which land value taxation can rest. We are wasting our substance and the community like the individual has to pay for such extravagance in present loss or in mortgaging the future."

VIII

Our urgent need for prosperity-producing governmental expenditures is evidenced by the fact that, if Henry George were writing today, he would have to alter very little, as applying to the 1930's, his graphic description of the tragic sufferings and injustices of the 1870's. Take these passages from *Progress and Poverty*, 9 for example:

"From all parts of the civilized world come complaints of industrial depressions; of labor condemned to involuntary idleness; of capital massed and wasting; of pecuniary distress among business men; of want and

suffering and anxiety among the working classes. All the dull, deadening pain, all the keen, maddening anguish, that to great masses of men are involved in the words 'hard times,' afflict the world today . . . The march of invention has clothed mankind with powers of which a century ago the boldest imagination could not have dreamed. But in factories where labor-saving machinery has reached its most wonderful development, little children are at work; wherever the new forces are anything like fully utilized, large classes are maintained by charity or live on the verge of recourse to it; amid the greatest accumulations of wealth, men die of starvation, and puny infants suckle dry breasts; while everywhere the greed of gain, the worship of wealth, shows the force of the fear of want. The promised land flies before us like the mirage. The fruits of the tree of knowledge turn as we grasp them to apples of Sodom that crumble at the touch . . .

"This association of poverty with progress is the great enigma of our times. It is the central fact from which spring industrial, social, and political difficulties that perplex the world, and with which statesmanship and philanthropy and education grapple in vain. From it come the clouds that overhang the future of the most progressive and self-reliant nations. It is the riddle which the Sphinx of Fate puts to our civilization, and which not to answer is to be destroyed."

Henry George believed that in the private appropriation of natural or community-created land values, and in faulty methods of taxation, lay the major causes of all this trouble. the simple device of the single tax he was sure he had discovered the magic solution. I, too, believe that a major cause of poverty in the midst of plenty is our failure to conserve for the public benefit the resources and economic rent which nature and the community create; and that another major cause is to be found in our unscientific—and in the aggregate, inadequate—taxes. In fact, I am convinced that in a scientific system of bountiful taxation lies our only

⁸ Ibid., p. 119.

Pp. 5, 8, 10.

workable alternative to fascism or communism.

IX

For these reasons I am bold enough to believe that if Henry George were writing today he would be a tripletaxer rather than a single-taxer. This means that he would add income taxes and also inheritance taxes to land-value taxes as desirable and prosperity-producing sources of public revenues. He would, of course, use his wonderful command of the written and spoken word in opposition to the burdensome sales taxes and the strangling tax-limitation laws now being advocated by powerful but short-sighted groups of special plead-His pen would be controlled by no special interest except his own interest in the welfare of his fellow men and of generations yet unborn. If he were rewriting his Social Problems, he would find no reason in the events and conditions of 1935 to alter the following paragraphs published in 1883:

"So true it is that poverty does not come from the inability to produce more wealth that from every side we hear that the power to produce is in excess of the ability to find a market; that the constant fear seems to be not that too little, but that too much, will be produced. Do we not maintain a high tariff, and keep at every port a horde of Custom House officers, for fear the people of other countries will overwhelm us with their goods? Is not a great part of our machinery constantly idle? Are there not even in what we call good times, an immense number of unemployed men who would gladly be at work producing wealth if they could only get the opportunity? Do we not, even now, hear from every side, of embarrassment from the very excess of productive power, and of combinations to reduce production?

"Every day passed in enforced idleness by a laborer who would gladly be at work could he find opportunity, means so much less in the fund which creates the effective demand for other labor; every time wages are screwed down means so much reduction in the purchasing power of the workmen whose incomes are thus reduced. The paralysis which at all times wastes productive power, and which, in times of industrial depression, causes more loss than a great war, springs from the difficulty which those who would gladly satisfy their wants by their labor find in doing so. It cannot come from any natural limitation so long as human desires remain unsatisfied, and nature yet offers to man the raw material of wealth. It must come from social maladjustments which permit the monopolization of these natural opportunities, and which rob labor of its fair reward." 10

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To some devoted disciples of the great prophet whose views I have been discussing, there may be much that seems presumptuous in the foregoing paper. Others will recall Henry George's own words in *Social Problems*, where he said:

"I ask no one who may read this book to accept my views. I ask him to think for himself. Whoever, laying aside prejudices and self-interests, will honestly and carefully make up his own mind as to the causes and the cure of the social evils that are so apparent, does, in that, the most important thing in his power toward their removal... The great work of the present for every man, and every organization of men, who would improve social conditions, is the work of education—the propagation of ideas."

And may we not recall, also, the final appeal in that great book:

"Hence it is, as Mazzini said, that it is around the standard of duty rather than around the standard of self-interest that men must rally to win the rights of man. And herein may we see the deep philosophy of Him who bade men love their neighbors as themselves.

"In that spirit, and in no other, is the power to solve social problems and carry civilization forward." 12

¹⁰ Henry George, Social Problems (New York: Robert Schalkenbach Foundation, 1934), pp. 73, 77.

¹¹ Ibid., pp. 242, 243.

¹² Ibid., p. 245.

To question the adequacy of this inspiring peroration may seem not merely presumptuous, but actually sacrilegious. Nevertheless, I must suggest one thought in conclusion.

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With George's belief that service, rather than self-interest, must be the main motivation of those who would lead civilization forward, I am in hearty accord. But the votes that carry the elections are cast not by leaders but by followers. To them the appeal, I believe, must be both to altruism and to self-interest. And to the overwhelming majority of the rich as well as the poor, such an appeal can with entire sincerity be made. Under a just system of taxation there could be a car in every garage and a chicken in every pot; but this would not preclude the possibility of two cars and two chickens—even five cars and five chickens—in some garages and pots.

No dead level of net incomes would be either necessary or desirable in a rational society. Enough of a spread between minimum and maximum earning power should be left to supply incentive for the mental and physical efforts which are still necessary, even with all our technological advance, to meet the needs and supply the joys of modern civilization. But such incentive does not require conditions under which the great majority of our American families receive incomes of less than \$2,000 a year, while others are collecting \$200,000 or even \$2,000,000 or more a year. May we not be optimistic enough to imagine a gradual readjustment,

through taxation and the stimulation of industry without resort to fascism or communism, to such an extent that unmerited poverty and unneeded wealth will both disappear? Suppose that the normal minimum wages of able-bodied or able-brained American adults were to range from \$3,000 to \$5,000 a year and even assume, if you will, that this would involve the inability of other American adults, whether working or loafing, to collect and retain more than \$30,000 to \$50,000 a year. Would not this income spread be sufficient incentive for all the initiative and enterprise which our 20th century civilization requires? And would not the average of happiness and security among those who now comprise our aristocracy of wealth become much greater than they could derive from "untrammeled individualism and collective irresponsibility?"

If this goal were achieved, a few monopolists, and exploiters, and gangsters would have less of this world's goods than they now try to enjoy. But the physical and spiritual advantages to all but a tiny fraction of the population would be so tremendous that a convincing appeal to the voters might be founded on the fundamental fact fully realized by Henry George—that man has a mouth to fill as well as a soul to satisfy. Thus may we achieve the more speedily that happy society of which prophets and philosophers have dreamed and for which scientists and statesmen through the ages have

coiled.

Regulation of Municipal Electric Utility Rates in Wisconsin: 1931-1934

By H. ZINDER and WALTER E. CAINE

RIOR to June, 1931 when the Wisconsin Railroad Commission was reorganized into the Public Service Commission of Wisconsin, regulation of minicipal utilities was limited by lack of both funds and personnel. The original public utility laws of 1907 invested the Commission with the same powers over municipal utilities as over private utili-The utility legislation of 1931, which among other things provided for assessing the costs of investigations against the utilities to a limited extent, made possible more complete enforcement of the powers, duties, and obligations of the Commission.

Many arguments may be advanced both pro and con as to the need for, and necessity of, regulation of municipal utilities, particularly as to rates charged for service. The present lack of agreement in this matter cannot be better illustrated than by the mere reminder that the legislatures of only 16 states have provided for such regulation.1 Many are inclined to view active regulation of municipal activities as to rates, service, accounts, and securities as an unnecessary infringement upon local powers, and as something essential only under private operation. The many benefits of regulation as a preventive of abuses in the monopoly control of an essential service, whether rendered by a municipal or private agency, are frequently overlooked. Hence, it is of particular interest to examine the record of the Public Service Commission of Wisconsin for the past three and one-half

years in relation to the regulation of municipal utility rates. This period commences relatively early in the depression and offers an unusual opportunity to review municipal utility rate regulation over a period when necessary adjustments of rates called forth considerable activity. en

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Emergency Rate Reductions

It is impossible to portray municipal utility rate-making during the depression without at least a review of the multitude of "temporary emergency rate reduction" orders which were issued These orders during its early years. almost invariably provided for a horizontal percentage reduction in bills under the existing rate. Each decision of this nature specified a definite future date, usually one year hence, when the original rates would automatically be reinstated, unless the order were "previously altered or amended on petition of the utility, or its customers, or on motion of the Commission." Jurisdiction was ordinarily retained by the Commission for the period of the reduction in order that changes might be effected immediately if changing conditions warranted such action.

For the most part, municipal utilities in good financial condition entered into whole-hearted cooperation with the Commission in its effort to meet the emergency with lower rates. In fact, the "emergency" case files indicate that many of these reductions were suggested by municipal officials. On the other hand, it may be true that in some few cases

Wisconsin and Wyoming. (Mosher and Crawford, Public Utility Regulation (New York: Harper and Brothers, 1933), p. 499.)

¹ Indiana, Maine, Maryland, Massachusetts, Missouri, Montana, Nebraska, Nevada, New Jersey, New York, Rhode Island, Utah, Vermont, West Virginia,

emergency reductions were initiated by municipal utility officials in an effort temporarily to reduce excessive earnings for the purpose of delaying a permanent reduction, pending a determination of the probable trend of future sales and revenues.

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The Commission recognized from the beginning the obstacles, to future rate adjustments, of flat percentage reductions and their extension for additional yearly periods. A flat percentage reduction had the advantage of giving all customers some measure of relief and at the same time leaving the original rate intact. However, it was recognized that many of these reductions would become permanent and that the opportunity of adjusting incorrect rate forms and schedules to a more promotional and scientific basis, usually most conveniently made when a reduction is made, would be lost. Furthermore, in many instances the inequities in an existing schedule would be enlarged by making permanent a flat percentage reduction in price. One of the early emergency reductions provided for a 20% discount on all bills, where the rate was already relatively low. At the present time, the conversion of this temporary reduction into a permanent rate schedule of proper design presents many difficult problems. During the latter part of the period under review, temporary reductions were made so as not to conflict with the probable succeeding step in a change in the permanent schedule of the utility. This policy not only required considerable study of rates and costs by the Commission staff in each case but in some instances led to opposition by municipal utility officials because of the unequal reductions to customers which would result. Usually, however, conferences with municipal utility officials brought about an approval of the policy when it became apparent to them that only in this way would future difficulties be avoided.

Permanent Reductions

During the period under consideration there were numerous permanent adjustments of municipal utility rates. careful analysis has been made of all such adjustments, since it is here primarily that any influence of Commission regulation should be apparent. The results of this analysis are summarized in Table I. This table lists chronologically the name of each municipal electric utility which has undergone any type of permanent rate reduction during the period, together with pertinent descriptive material. In addition, each reduction has been labeled as initiated by either the Commission or the utility.2 It will be noticed that some of the municipal utilities appear more than once in the table, indicating more than one rate adjustment during the three-and-onehalf-year period. There are 87 municipal electric utilities in the State. Table II lists those municipal electric utilities which had no permanent rate adjustments during the period. Some of these utilities are now under investigation and some have had rate adjustments since December 31, 1934.3 At the present writing there are only nine municipal

² Many formal decisions of the Commission are entitled "In the Matter of the Investigation on Motion of the Commission of the Rates, Rules, Practices and Activities of the City of. , as an Electric Utility." Where a rate investigation has been initiated informally by the utility, later being turned into a formal investigation, the resulting reduction has been labeled as "initiated by the utility" in the table

referred to, even though the title of the case may read "on motion of the Commission." This transfer to a formal investigation is necessary whenever it has been found that some few bills would be increased as a result of the change.

³ The following municipal electric utilities of those listed in Table II have had rate adjustments since December 31, 1934: Evansville and Prairie du Sac.

Table I. List of Permanent Reductions in Rates of Wisconsin Municipal Electric Utilities from July 1, 1931—December 31, 1934

						Affected		Ra	tes .	Affe	cted			
No	Community	Popula- tion	Date of Reduction	Amount of Reduction	Percent Reduction	Number of Customers Aff	Domestic	Commercial	Power	St. Ltg.	Rural	Cooking	Initiated by Commission	Initiated by Utility
1	Spooner		July, 1931	\$6,500	18.3	633	x	x	-	-	-	x	x	
2	New Lisbon	1,076	July, 1931	3,000	14.2	371	x -		X	_	-	-	x	x
3	Plain		July, 1931 July, 1931	500	7.1	135	x	x	X	x	x	-		x
5	Waupun	5,768	Aug., 1931	10,500	11.9	1,513	x	x	x	x	-	x	x	
	Cassville	875	Aug., 1931	1,000	8.5	233	X	-	_	_	_	-		X X
7 8	Hazel Green New London	4,661	Sept., 1931 Oct., 1931	12,500	5.I 14.4	205 1,510	x	x	x	_	x	x	ж	
9	Colby	849	Oct., 1931	2,800	17.1	302	x	x	x	x	-	x		x
10	Richland Center		Oct., 1931	9,000	11.0	1,301	x	x	x	x	-	x		x
11	Stratford	960	Oct., 1931 Nov., 1931	2,000	6.7	232	X	x	x	x	×	x	X X	
13	Boscobel	747 1,762	Dec., 1931	3,000	9.8	352 652	x	x	x	x	x	x	x	
14	Reedsburg	2,967	Dec., 1931	6,600	12.6	1,230	x	x	x	-	-	x	x	
16	Oconomowoc	4,190	Jan., 1932	7,500	6.7	1,721	x	X	X	-	x	-		x
17	Shawano		Jan., 1932 Jan., 1932	7,000	0.2	2,472 25	x	x -	×	x -	-	X	х	×
18	Westby	1,366	Jan., 1932	2,015	9.6	409	x	x	x	-	-	x		x
19	Deerfield	501	Jan., 1932	3,600	31.0	229	x	х	x	-	-	-		x
20	New Richmond	1,065	Feb., 1932 Feb., 1932	5,760	0.6	13 694	x	x	-	_	X	×	x	x
22	Jefferson		Mar., 1932	800	1.2	12	_	_	x	-	-	_		x
23	New Glarus	1,010	Mar., 1932	1,800	8.8	395	x	x	-	-	-	-	x	
24	Sheboygan Falls		Mar., 1932	4,763	8.9	1,073	x	X	-	X	-	x		x
25	Wisconsin Dells Lake Mills	1,489	Mar., 1932 Apr., 1932	7,000	7.2	678 782	x	X	x	x	X	X		x
27	Menasha	9,062	June, 1932	2,205	1.9	2,476	x	-	-	-	-	-		x
28	Slinger	760	July, 1932	3,200	22.5	200	x	x	x	x	-	-		x
30	Plymouth		July, 1932 Sept., 1932	5,330	9.4	800	x	x	-	x	_	x	x	x
31	Cadott		Sept., 1932	950	8.4	182	x	x	x	x	-	x		x
32	Elroy	1.546	Oct., 1932	3,000	12.9	512	x	х	x	-	-	x	x	
33	Hartford	3,754	Oct., 1932	9,000	10.8	1,318	x	x	_	- 1	x _	=		X X
34	Eagle River Kaukauna	1,386	Oct., 1932 Oct., 1932	12,000	3.5	3,200	X	x	x	x	x	_	x	
36	Plymouth	3,882	Oct., 1932	200	0.2	35	-	-	x	-	-	-		x
37	Arcadia	1.499	Dec., 1932	300	1.4	6	-	-	x	-	-	-		x
38	Stoughton	4,497	Dec., 1932 Dec., 1932	1,100	3.7	1	_	_	- x	x	_			x
40	Waterloo		Jan., 1933	3,650	13.5	570	x	x	x	-	x	x		x
41	Lodi	1,065	Jan., 1933	395	13.5	90	-	x	-	-	-	-		x
42	Clintonville	3,572	Feb., 1933	10,500	17.9	1,387	x	X X	x	-	x	x	х	x
43	Lake Mills New Glarus		Feb., 1933 Feb., 1933	2,340 1,590	4.6 8.3	525 395	x	x	x	_	_	_	x	
45	Readstown	544	Apr., 1933	600	12.1	152	x	x	x	-	-	x	x	
45	New Lisbon	1,076	Apr., 1933		17.7	375	x	X	x	x	-	x		x
47	BentonAlgoma	869	May, 1933 June, 1933	583 4,380	6.7	662	x	x	- x	- x	x -	- x	x	x
49	Trempeleau	541	June, 1933	738	15.2	123	x	x	-	-	-	-		x
50	Elkhorn	2,340	July, 1933	12,500	18.2	1,139	x	x	x	x	-	x	x	
51	Two Rivers	692	July, 1933	14,800	3.6	2,638	×	X	-		_	_	х	x
52	River Falls		July, 1933 Aug., 1933	7,800	15.6	885	x	x	-	-	-	-	x	
54	Reedsburg	2,967	Aug., 1933	5,500	11.7	954	x	x	x	-	-	-	x	
55	Oconomowoc	4,190	Sept., 1933	14,183		1,680	x	x	x	x	x	X		x
57	Richland Center Waunakee	640	Oct., 1933 Oct., 1933	6,720	13.3	1,382	x x	X	X	_	x	X -	X X	
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Table I. List of Permanent Reductions in Rates of Wisconsin Municipal Electric Utilities from July 1, 1931—December 31, 1934—(Continued)

	Community							cted		Rat	es A	ffec	ted			
No.		Popula- tion	Date of Reduction	Amount of Reduction	Percent Reduction	Number of Customers Affected	Domestic	Commercial	Power	St. Ltg.	Rural	Cooking	Initiated by Commission	Initiated by		
8	Wisconsin Rapids	8,726	Nov., 1933	\$18,700	13.2	3,406	x	x	x	_	_	x	x			
9	Black Earth	490	Jan., 1934	1,300	14.2	205	x	x	-		x	-	x			
ó١	Boscobel	1,762	Jan., 1934		15.3	622	x	x	x	x	-	-)		
1	Bloomer	1,865	Feb., 1934	4,700	15.5	604	x	x	x	-	-	-	x			
2	Sauk City	1,137	Feb., 1934	1,900	9.5	429	х	x	х	x	x	-		2		
3	Lake Mills	2,007	Feb., 1934	2,650	5.4	595	x	x	x	-	-	-		1		
4	Woodman	IOI	Mar., 1934	200	20.2		x	x	x	-	-	-		:		
5	Waupun	5,768	Apr., 1934	10,000	13.0	33 1,486	x	x	x	x	-	-	x			
6	Brodhead	1,533	Apr., 1934	5,450	16.6	686	x	x	x	x	-	-	x			
7	Cornell	1,510	Apr., 1934	2,200	16.5	415	x	x	x	-	-	-	x			
ŔΙ	Barron	1,863	Apr., 1934	4,300	11.1	637	x	x	-	x	-	-	x			
9	Kaukauna	6,581	Apr., 1934	15,800	5.3	3,175	x	x	x	-	x	x				
śΙ	Merrillan	554	Apr., 1934	450	6.4	171	x	x	-	-	-	-				
1	Westby	1,366	Apr., 1934	750	4.9	360	x	x	-	-	-					
2	Lake Mills	2,007	May, 1934	325	.7	24	-	_	-	-	x	-				
3	Fennimore	1,341	May, 1934	3,000	12.4	533	x	x	x	x	x	-	x			
í	Potosi	447	June, 1934		15.0	151	x	x	x	x	_	-				
5	Plymouth	3,882	June, 1934	5,600	5.4	332	-	x	x	-	-	-	x			
3	Rice Lake	5,177	June, 1934	15,000	24.0	1,448	x	x	_	x	-	-	x			
	Waterloo	1,272	June, 1934	150	.7	-, 44-	_	_	x	_	_	-				
7 8	Princeton	1,183	July, 1934	3,100	19.0	447	x	x	x	x	-	_	x			
9	Lodi	1,065	July, 1934	590	3.0	464	x	x	x	_	x	-				
5	Marshfield	8,778	Aug., 1934	22,000	14.0	2,711	x	x	x	x	x	x	x			
	Footville	358	Aug., 1934	1,200	19.0	156	x	x	x	_		_	x			
2	Plymouth	3,882	Aug., 1934	520	0.5	259	_	x	-	_	_	_				
3	Cassville	875	Sept., 1934	1,300	10.5	268	x	x	x	_	_	_				
1	Menasha	9,062	Oct., 1934	12,600	10.0	2,545	x	x	x	x	x	x	x			
	Kiel		Oct., 1934	4,000	13.5	350	x	x	x	x	x	_	x			
	Manitowoc	22 062	Oct., 1934	43,000	16.0	7,500	x	x	x	_	x	x	x			
,	Muscoda	900	Nov., 1934	1,650	10.8	322	X	X	X	x	X	_	X			
4	Mazomanie	747	Dec., 1934	363	3.8	316	X	X	x	x	X	-	x			
	New London	4,661	Dec., 1934					X	X	X	X	_	X			
	New Holstein		Dec., 1934 Dec., 1934	10,200	14.7	1,438	X	X	X	x	X	-	X			
	Cashton	1,274 680		3,750	14.0		X				x -	_	X			
	Kaukauna	6,581	Dec., 1934 Dec., 1934	1,400	13.4	245	x	x	X	x	-	-		,		

utilities which have made no permanent rate adjustments during the past 3½ years and which have no adjustment pending at the present time.

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Table III presents a summary of some of the information contained in Table I. It will be noted that 52% of the reductions listed were initiated by the utilities themselves. However, these reductions accounted for only 29% of the total value in dollars, and affected only 31% of the customers shown in the table. The smaller average reduction initiated by

the utilities, \$2,663 as compared with \$7,476, would seem to indicate that the Commission limited its activities to the larger utilities. A detailed examination of Table I does not support this supposition. Many of the reductions initiated by the utilities have been limited to satisfying rate complaints or the correction of some faults in the rate schedule that developed under changing circumstances. On the other hand, reductions initiated by the Commission have, for the most part, been general rate

Table II. Wisconsin Municipal Electric Utilities Having No Permanent Rate Reduction from July 1, 1931 to December 31, 1934.

Utility	Population	Emergency Reduction in Effect	Formal Investigation Pending	Informal Investigation Pending
1. Columbus	2,514	x		
2. Evansville	2,269	x	x	
3. Sturgeon Bay	4,983		x	
4. Black River Falls	1,950		x	
5. Cumberland	1,532		x	
6. Juneau	1,154			
7. Kewaunee	2,409	x		
8. Middleton	983		x	
9. Monticello	644			x
10. Oconto Falls	1,921			x
11. Sun Prairie	1,337			
12. Belmont	452			
13. Cuba City	1,157	X		x
14. Florence	1,341			
15. Gresham	310			
16. Prairie du Sac	949	X	x	
17. Wonewoc	717			x
18. Bangor	835	x		
19. Commonwealth	200			
20. Oliver	167			

revisions. Such reductions constitute a "dividend" to rate payers through a reduction of excess earnings.

The mere fact that a utility is municipally owned does not in itself establish the absence of a profit motive. The profit motive of a municipal utility exists in the desire of a city council to relieve the taxpayer at the expense of the rate payer. However, in only 7 out of the 44 reductions initiated by the Commission were there any definite objections encountered. Hence commission regulation of municipal utility rates

under such circumstances is best described as supervisory. At the same time there appears to be a definite need for enforcement powers at the fringes of municipal ownership to prevent the unreasonable burdening of the rate payer, thereby denying him the fullest use of an essential service. In this connection the following figures relating to kilowatt hour sales to residential, commercial, and rural customers for municipal, as compared with private, utilities in Wisconsin are of interest:

Year	Municipal Utilities (kw. hrs.)	Private Utilities (kw. hrs.)
1931	48,064,000	502,581,000
1932	48,326,000	479,059,000
1933	48,602,000	453,857,000

It is recognized that many factors other than rates influence the use of electric service but it is questionable whether this comparatively good showing of municipal utilities could have been accomplished without a policy of rate adjustments.

Basis for Reductions

The influence of commission regulation of municipal utility rates extends deeper than merely determining when rate adjustments should be made. In arriving at the basis for such reductions many questions of major importance are involved.

Table III. Summary Analysis of Permanent Reductions in Municipal Utility Rates, July, 1931-December 31, 1934.

	Initiated by Commission					tal
	Amount	Percent	Amount	Percent	Amount	Percent
Number of Reductions	\$315,793	48 % 71	\$128,018	52 % 29	92 \$443,811	100 %
Number of Customers Affected		69	22,395 56,442	31 32	72,574 173,610	100
Average Size of Reduction	\$7,179		\$2,667 \$5.72		\$4,824 \$6.12	

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In a recent decision of the Wisconsin Supreme Court (City of Milwaukee v. Railroad Commission, 206 Wis. 339 (1933)) the Court declared that each type of utility service, e. g., electric, water, heating, etc., rendered by a joint utility should be considered independently in any rate-making proceedings. This decision had a marked effect upon the regulation of municipal utilities in particular, since most electric departments are operated in conjunction with a water department, the latter more often than not being in the nature of a poor relation continually requiring financial assistance. Although the policy to which the Court objected is inherently unfair from the point of view of costs particularly, the policy had been followed by the Commission in previous years because of the lack of a definite ruling in the matter and for practical local considerations. Hence recent adjustments of municipal utility rates have often resulted in an added increment of reduction to electric customers that formerly represented a subsidy of water customers.

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Unless evidence of important errors is found in the utility's accounting for fixed capital, the Commission has tended to accept historical book cost as reported to it annually, in its determination of a Many municipal utilities, rate-base. however, have charged portions of capital additions to operating expenses, largely as a result either of a misunderstanding of accounting or in a few instances of a frank desire to overstate operating expenses and understate return. Obviously, if this has gone on for a period of years, during which time the utility has continued to earn a fair return over and above its erroneously reported operating expenses, the customers of

such utilities have been forced during that period to contribute toward the utility's fixed capital. The Commission, in the Mondovi Telephone Company case (P. U. R. 1933 B 319, and denial of rehearing, P. U. R. 1933 D 142) considered the problems resulting from such conditions and practices, and ruled as follows:

"Hence wherever and whenever plant expenditures have been absorbed in operating expenses, and these operating expenses have been reported under oath and relied upon by the Commission, these items are not to be added back to the plant account later in determining a rate-base." (P. U. R. 1933 D 144.)

Since the original decision in this matter on November 10, 1932, the "Mondovi principle" has been adhered to in regulation of municipal as well as private utilities.

A further point with regard to the fixed capital accounts of municipal utilities which has been more closely watched in recent months is the elimination of non-used and -useful property from the rate-base. An example of this situation, together with the Commission's ruling thereon, is found in the following quotation from a recent decision.⁴

"Included in the utility's fixed capital accounts as reported are the following items of steam generating equipment:

1. Boiler plant equipment.....\$ 7,691.22

2. Electric plant, steam...... 19,532.57 3. Miscellaneous steam equipment 539.99

⁴ In the Matter of an Investigation on Motion of the Commission of the Rates, Rules and Practices of the City

of Waupun, as an Electric Utility, Docket Number 2-U-608, Signed April 17, 1934.

"The utility's report to this Commission for 1914 shows 349,410 kilowatt hours to have been generated that year by steam, with no energy acquired from other sources. . . Reports from 1920 through and including 1932 show the utility to have generated only 4,240 kilowatt hours during that period, full requirements having been met with energy purchased from the Wisconsin Power and Light Company . . .

"In determining the value of this generating equipment as a source of power in an emergency, three factors should be borne in mind: (1) the generating capacity is considerably less than the maximum demand on the system (642 K. W. in 1932), (2) it would require approximately two hours' time to get the equipment into operation in the event of an emergency, and (3) a certain element of standby service is otherwise available due to the fact that energy enters the city from the Wisconsin Power and Light Company's generating plants over two highlines and from opposite directions.

"After giving consideration to these factors, together with the history of the use of this equipment . . . we conclude that its continued operation is not essential to good

electrical service in Waupun . . .

The utility officials, however, assert that its primary value lies in its use as standby capacity for the electrically operated pumps of the water department in case of an interruption in the supply of purchased energy . . We fail to see why the users of electricity in Waupun should be obliged to pay for this feature through electric rates, even though it should be true that the fire insurance rating is appreciably affected by the existence of such equipment . . .

Consequently, the retirement of the equipment was assumed in the determination of a rate-base and electric consumers of the city profited by an additional reduction of \$1,7775 as a result.

The Commission in recent years has almost invariably adopted a policy of deducting the depreciation reserve in determining the rate-base.6 In applying

this principle, the rate-base of a municipal electric utility sometimes suffers because of poor accounting in prior years. Municipal utilities as a class have been accustomed to make an annual depreciation charge to operating expense of 5% of the cost of the plant on a straight-line basis. On the other hand, a review of the depreciation reserve accounts of many municipal utilities will show no charges whatever to the reserve over a period of years, others will show nominal charges,7 while a few only will indicate a normal use of the reserve. Customers of a utility which handles its depreciation in this manner are required to pay double for replacements—once in advance when the utility has charged operating expenses and credited the reserve, and once at the time of the replacement when the cost is again charged to operating expenses. In the past few years the Commission has been able to correct many of these accounting practices.

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The practical question arises in a rate case, however, as to enforcing a policy of deducting the resultant high reserve from the gross plant value to arrive at a rate-base. The deduction of the depreciation reserve under such circumstances results in a figure which is probably far from the actual depreciated physical plant value on an appraisal basis. On the other hand, it would appear only reasonable and equitable, when earnings have been no less than fair, to deduct the entire reserve in arriving at a net ratebase, upon the "Mondovi principle" that it is unreasonable to require customers to pay a return upon their own contributions to fixed capital. This is based upon the premise that if customers pay \$100

⁵ This figure is 17.8% of the total reduction of \$10,000 shown on line 65 of Table I.

⁶ The Commission's reasoning in this connection is well illustrated in the two Mondovi orders cited above.

⁷ For example, the record of hearing in a recent case

⁽Re City of Spooner, 2-U-774) indicates the Commission's witness to have testified that only \$46.00 in retirements were charged to the reserve during the 10 years ending December 31, 1933. This was in spite of a fixed capital account of over \$76,000.

in equal instalments in anticipation of the retirement of a piece of property, they have done all that can reasonably be expected. If the utility, at the time of the actual retirement, fails to use the funds already set aside for the purpose and again charges the customers \$100 for the same property, this time by a lump-sum charge to operating expenses, the utility is recovering the investment twice from the customers. This is patently unfair. The Commission in adopting the general policy of deducting the depreciation reserve in most instances, especially where earnings in the past have always been adequate, has apparently followed this reasoning.

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In determining the return earned the Commission has invariably followed the practice of allowing a reasonable amount for taxes to be set up. This allowance is determined by applying the local tax rate, for school and local taxes, against the value of the property in accordance with local assessment practices. In this manner the municipal utility sets up as an expense, to be paid to the city, an amount usually equivalent to what it would receive if the utility were privately owned. On property located outside the corporate limits of a municipality, the municipal utility is taxed by the state at the average state rate. This does not apply to water utility property outside of city limits. The additional state and county taxes paid by private utilities are generally not set up by the local municipal utility, although where energy is purchased from a private utility a share of such taxes is presumably included in the purchase price of energy.

During the past few years the Commission has figured fair rates of return of 6% for electric utilities. This rate of

return has been applied to both private and municipal utilities. Prior to the depression, a 7% return was the general policy. These allowances for rates of return represent a policy almost diametrically opposite to the recent decision of the New York Commission in the Boonville case (Cases No. 7426 and 7593), wherein the right of a municipal utility to earn a profit was denied.8 The policy of the Wisconsin Commission is largely directed by Section 66.06 (11) (c) of the Wisconsin statutes which reads as follows:

"The income of a public utility owned by a municipality, shall first be used to meet operation, maintenance, depreciation, interest, and sinking fund requirements, additions and improvements, and other necessary disbursements or indebtedness. Income in excess of these requirements may be used to purchase and hold interest bearing bonds, issued for the acquisition of the utility or bonds issued by the United States or any municipal corporation of this state, or may be paid into the general fund."

The wording of this section obviously implies the expectation on the part of the legislature that a municipally owned utility will be permitted to earn something more than the bare operating costs of the business. Further than that, it implies the right of a municipality to appropriate these surplus earnings to general municipal funds when not needed for utility purposes. Although the statute does not specify taxes as a cost, the Commission's policy, as previously explained, is to treat taxes as a cost element to be recovered before determining return on the investment, or surplus earnings. The Wisconsin Commission apparently bases its regulation of municipal utility earnings upon this interpretation allowing a fair return

^{*} When considered in the light of some of the special circumstances in the Boonville case, such as free street lighting service and the return to the city of its invest-

ment in the utility through appropriations from earnings, the policies of the two Commissions in reality may not be entirely opposite.

(6% at present) to be earned, and permitting the transfer of funds to the municipality after all expenses have been met and sufficient reserve funds have been built up for future requirements.

Excessive appropriations of municipal utility funds to the general city fund for the purpose of reducing local taxes are equivalent to a sales tax on electric energy. Taxpayers are not rate payers in all cases. In the case of one municipal utility one of the largest industries and taxpayers in the community was not a customer of the municipal utility but by special arrangement received service from the nearby transmission line and steam plant of a private utility. While this may be an extreme example of the inequities that follow from reducing the general tax rate by an added burden on electric customers, the policy should be definitely recognized as representing a sales tax on The essential nature of electricity. electric service and the dependence of costs and rates on increased use should justify a policy of the lowest possible rates. If the laws of Wisconsin provided, as is the case in Indiana, that the Commission pass upon the reasonableness of all transfers of utility funds to the city general fund, the reserves of some municipal utilities would be more liquid. The past experience of the Commission has been that some municipal utilities have made excessive appropriations to the general city funds, thereby weakening the position of the municipal utility to carry on successfully and render adequate service at low rates.

Rate Policies

In most rate adjustments, either the municipal utility board, members of the city council, or the plant manager have more or less determined opinions as to who should enjoy the reduction in rates, irrespective of costs or existing differentials in rates to various classes of customers. Because of the necessity of reducing taxes during the past few years, the Commission has almost invariably been confronted with the request to include a substantial reduction in street-lighting rates in the rate adjustments.9

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One city attorney expressed himself as follows in a letter to the Commission:

"... if the Commission will agree to lower the charge which the city pays for its services to the electric fund and to the water fund, we will take immediate steps to comply with ... requirements ... Unless this is done there is no use in the clerk or the writer going to the council with any proposition. They do not understand it, but they do understand tax rates. It is my opinion that the charges that the city makes against itself for these services should be cut just exactly in half and if you will see that that result is accomplished, we will start out right away to take care of this situation ...

"There is no necessity for the Commission to write me about their studies of costs of lighting in other cities, because I am not interested and I have read that letter. The point is that if you will let us bill ourselves for these services what they are reasonably worth, that is, one-half of what we now have to charge ourselves, the result will be that the utilities will make money and that they will accumulate an actual, as well as book, reserve to replace the system when it is worn out and we will then have a proposition which really looks like something and is something."

Many city officials, looking upon their electric (or water) utility as simply another department of the city government, either completely overlook or willfully ignore the laws of the state which provide that "the charge made by any public utility for any heat, light, water or power . . . delivered . . . or for any service rendered . . . in connection there-

⁹ The same requests are also frequently made with regard to rates for municipal fire protection service in

cases involving the rates of municipal water utilities, and much the same problems are involved.

with shall be reasonable and just, and every unjust or unreasonable charge for such service is prohibited and declared unlawful." (Section 196.03, Wisconsin Statutes.) It does not appear reasonable and within the intent of the statutes to maintain a high domestic service rate, for example, in order that street-lighting service may be rendered the municipality at 50% of the ascertainable costs of such service. But neither is it thought reasonable to assess the city more than the cost of street-lighting service in order to serve domestic customers at less than cost.

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Often a requested drastic reduction in the street lighting is attributable to a lack of familiarity with the costs in-Local officials are prone to acquire a persecution complex when it dawns upon them that they are required, for example, to pay their own electric utility an average of 4 ½c or 5c per kw. hr. for energy used by the street-lighting system, when other classes of customers may get service at as low as 2c per kw. hr. at the last step of their rates. Nor does it always ease the situation to point out that the average cost of energy to other classes of service may be as high or higher than the street-lighting rate, or that the utility must meet its fixed charges on a large investment in ornamental and overhead street-lighting equipment while such consuming equipment is not supplied to other classes of The belief frequently recustomers. mains that the city is being discriminated against in favor of the household customer.

In most of the recent orders of the Commission a fixed charge type of street-lighting rate has been adopted.

An "investment or fixed charge" is first set up, designed to cover only depreciation, taxes, return, and maintenance on special street-lighting equipment. By labeling this charge an "investment" charge, the fact is brought out clearly that the extra investment in street-lighting equipment occasions certain fixed costs which it is reasonable to require the municipality rather than other customers to pay. To this investment charge is added a block energy charge, the lower step of which is designed to meet the bottom step of rates for other classes of services. This form of rate tends to emphasize the fact, among other advantages, that the municipality is required to pay no more for the actual energy than are other classes of service.10

Most municipal electric rate schedules now provide for a price differential between energy sold for domestic use and that sold for lighting of commercial establishments. This policy is so general throughout the country that its equity is seldom questioned. However, the establishment of this differential in the case of municipal utilities which have for years sold energy to both classes at the same rate, is one of the difficult problems met by the Commission. The Commission has generally delayed the establishment of a commercial lighting classification until the change could be made without increasing the bills of such customers.

Because experience as well as theory has proved a separate domestic heating and cooking rate to be usually discriminatory in application, the Commission has endeavored in recent years to estab-

¹⁰ The following street-lighting rate, recently applied to the city of New Holstein, Wis., for service rendered by its municipal electric utility, will illustrate the above explanation:

Investment charge:

⁴⁰c per overhead lamp per month 95c per ornamental lamp per month

Energy charge:

First 4,000 kw. hrs. used per month, 3c net per kw. hr. Over 4,000 kw. hrs. used per month, 2c net per kw. hr.

lish combination domestic service (single meter) rates. In some instances it has been found necessary to order the separate cooking rate removed from the utility's schedule by formal order in spite of resulting increased bills, when it has become evident that customers were using the cooking circuit for lighting purposes. In most cases, however, the retirement of the cooking rate has been effected by providing a much more advantageous combination rate.

One superintendent objected strenuously to the adoption of a low combination rate because it deprived him of a "persuader" in his efforts to build up a range load. By requiring domestic customers to pay a relatively high rate (approximately 5.4c per kw. hr.) for energy used by their refrigerators, washing machines, irons, etc., but permitting them to use the cooking circuit (at 2c per kw. hr.) for this equipment after the installation of an electric range, he had been able to compete on excellent terms with the local gas utility. The Commission, however, failed to see the equity of charging one class of customers 37% of the price charged other customers for small appliance use, simply because they had added a range to their installation. A combination rate was consequently adopted.

Probably the most striking policy of the Wisconsin Commission, in the minds of customers and the public generally, has been its comparatively recent adoption of the fixed charge rate form for domestic and commercial lighting serv-Although the greater number of communities in which this rate form is now in operation are served by private companies, very few orders affecting rates of municipal utilities have been issued since January 1, 1934, which have not also provided for its adoption.

The purpose of this article is not to

go into detail concerning the theory underlying its adoption, the extent of its adoption, and the results obtained. Briefly, the fixed charge is designed to cover only so-called customer costs, listed by the Commission in various decisions as expenses of meter reading and testing, billing, collecting, and sundry commercial department expenses, maintenance and fixed charges (taxes, depreciation, and interest) on the investment in utility owned equipment on the customers' premises (service drop, meter, etc.). The fixed charge is designed to cover no demand costs and is consequently not unduly large.

This rate form is desirable since it is promotional and because it is much more readily understood and checked by customers than were the real estate room rates, active room rates, and connected load rates it has supplanted in many instances. Its greater equity as compared with a simple block rate, together with its ease of administration and the reasonable expectation of good results from its promotional character, have all helped in winning municipal plant managers to favor its adoption. As a result of this cooperation, 27 out of 32 residential and or commercial lighting rate changes since January 1, 1934, listed in Table I, have resulted in the adoption of the fixed charge rate form. The following domestic service rate, recently adopted by the cities of Bloomer (population 1,865) and Jefferson (population 2,639) will serve as a sample of this type of rate:

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Availability: Available for all lighting purposes, use of small appliances on lighting circuits, motors totalling not more than two horse power in capacity, heating, cooking, and refrigeration.

Fixed charge: 65c gross, 60c net per month.

Energy charge:

First 40 kw. hrs. used per mo., at 5c gross, 4c net per kw. hr.

Next 160 kw. hrs. used per mo., at 3c gross, 2c net per kw. hr.

Over 200 kw. hrs. used per mo., at 11/2c

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Minimum bill: The minimum monthly charge under the foregoing rate for lighting service, including the use of motors totalling not more than two horse power in capacity, and appliances (including stoves) of less than 2,000 watts individual capacity, shall be the above fixed charge, 65c gross, 60c net per

For heating and cooking installations above 2,000 watts individual capacity, the minimum monthly charge (including the above fixed charge plus energy at the foregoing rates) shall be \$1.65 gross, \$1.60 net

net per month.

The commercial lighting rate adopted by the city of Bloomer is as follows:

Availability: Available for all lighting purposes, use of small appliances on lighting circuits, motors totalling not more than two horse power in capacity, heating, cooking, and refrigeration.

Fixed charge: 79c gross, 75c net per month.

Energy charge:

First 120 kw. hrs. used per mo. at 5c gross, 4c net per kw. hr.

Over 120 kw. hrs. used per mo. at 21/2c net per kw. hr.

Minimum bill: The minimum monthly charge under the foregoing rate for lighting service, including the use of motors totalling not more than two horse power in capacity, and appliances (including stoves) of less than 2,000 watts individual capacity, shall be the above fixed charge, 79c gross, 75c net per month.

For heating and cooking installations over 2,000 watts individual capacity, the minimum monthly charge (including the above fixed charge plus energy at the foregoing energy rates) shall be \$1.79 gross, \$1.75

net per month.

The commercial lighting rate adopted by the city of Jefferson, which is in a somewhat higher relationship to the domestic rate due to the larger size of the community and the resulting larger average commercial lighting loads, is as follows:

Availability: Available for all lighting purposes, use of small appliances on lighting circuits, single-phase motors totalling not more than two horse power in capacity attached to the lighting circuit which do not interfere with the lighting service, heating, cooking and refrigeration.

Fixed charge: 80c gross, 75c net per month.

Energy charge:

First 100 kw. hrs. used per month at 5c gross, 4c net per kw. hr.

Next 200 kw. hrs. used per month at 4c gross, 3c net per kw. hr.

Next 1700 kw. hrs. used per month at 3c gross, 21/2c net per kw. hr.

Over 2000 kw. hrs. used per month at 1½c net per kw. hr.

Minimum bill: The minimum monthly charge under the foregoing rate for commercial lighting service, including the use of motors as limited above and appliances (including stoves) of less than 2,000 watts individual capacity, shall be the above fixed charge of 80c gross, 75c net per month.

For heating and cooking installations over 2,000 watts individual capacity, the minimum monthly charge (including the above fixed charge plus energy at the foregoing energy rates) shall be \$1.80 gross, \$1.75 net per month.

There follows a statement of the residential and commercial rates for the Marshfield municipal electric utility (population 8,778). This is one of the larger municipal utilities in the State in which the fixed charge form of rate was recently adopted.

Fixed charge: 65c gross, 60c net per month. Energy charge:

First 40 kw. hrs. used per month at 51/2c gross, 5c net per kw. hr.

Next 40 kw. hrs. used per month at 31/2c gross, 3c net per kw. hr.

Over 80 kw. hrs. used per month at 21/4c gross, 2c net per kw. hr.

Minimum bill: The fixed charge shall constitute the minimum bill for lighting use. With heating and cooking installations of 3 kw. or over, the minimum monthly charge (including the above fixed charge plus energy at the foregoing rates) shall be \$1.10 gross, \$1.00 net.

The commercial lighting rate applicable in Marshfield is as follows:

Fixed charge: 80c gross, 75c net per month. Energy charge:

First 100 kw. hrs. used per month at 5½c gross, 5c net per kw. hr. Next 400 kw. hrs. used per month at 4c gross, 31/2c net per kw. hr.

Over 500 kw. hrs. used per month at

2½c gross, 2c net per kw. hr.

Minimum bill: The fixed charge shall constitute the minimum bill. With heating and cooking installations of 3 kw. or over, the minimum monthly charge (including the above fixed charge plus energy at the foregoing rates) shall be \$1.10 gross, \$1.00 net.

The rates quoted above as samples of the fixed charge form have not been shown for any purpose other than illustration. There are municipal utilities in the State charging for lighting service at rates higher than those shown above and others serving at lower rates.

Conclusion

As stated at the outset of this discussion there are many arguments for and against state regulation of municipal utilities. In Wisconsin the statutes make no distinction between private and municipal utilities as to the regulatory powers and duties of the Public Service Commission. This article is in the nature of an income account of the activities of this Commission in carrying out its duties as to the regulation of municipal utility rates during the past three and one-half years. Other phases of regulation, such as service, detailed accounting practices, financing, and construction have not been discussed. In these, as well as in rate matters, the Commission has frequently been called upon by municipal utility managers for advice The Commission has and assistance.

gone so far as to design an entire distribution system, set up bookkeeping records, and solve troublesome operating problems for municipal utilities. The size of municipal utilities of the state is such as to preclude the hiring of managers sufficiently familiar with all the technical problems of a utility and to make the frequent engaging of outside expert assistance prohibitive.

In summarizing the influences of the rate activities of the Commission affecting municipal utilities it must be remembered that the period covered is unusual in two respects: (1) the depression gave rise to necessary widespread rate adjustments, and (2) the present Commission was confronted at its inception with considerable "deferred regulation" resulting from the inability of the old Railroad Commission to stretch its meager funds to include adequate regulation of private and municipal utilities. The mere fact that "deferred regulation" left many problems to be worked out and rate adjustments to be made is in itself an indication of the need for municipal utility regulation in preventing undue drifting from sound practices. rendering of utility service should be recognized as a business enterprise whether municipally or privately operated. In requiring reports to be filed, accounts to be kept in a prescribed manner, reserves to be set up, returns to be fair, and rates to be equitable and nondiscriminatory, regulation assures the continued profitable operation of municipal utilities. It is recognized that once these "deferred" adjustments have been made and the principles set forth, the activity of the Commission with respect to municipal utilities should normally show a marked decline.

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"As Represented": Adventures in Public Utility Accounting*

By EARL H. BARBER

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PUBLIC utility commission once disposed of its stock cases with the formula, "The additions to the company's property having been inspected by the accounting division and found to be as represented, it is-Ordered, etc." When some wag pointed out that a certain case involved nothing but gas mains which were under ground and therefore hardly susceptible of inspection, the formula was modified; in the next order it was only the visible portions of the company's property which had been inspected. The modification met the particular criticism, but it set a standard of preciseness very difficult to sustain. Ultimately, an entirely new formula was devised-"The application having been referred to the accounting division for examination and report, it is-Ordered, etc."

That wording met all requirements. It had a full-rounded sound, but said nothing. It did not commit the members of the commission, but placed the responsibility on the accountants. The accountants in turn were committed to nothing beyond an examination and report, which to the extent of their time, facilities, and ability were probably

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But unfortunately it is precisely the limitations of the meager staffs granted to regulatory authorities, on which companies depend for padding their plant or "capital" accounts. An accounting division may consist of half a dozen men, but when the office routine is cared for and the field work is divided among the six or eight activities of the commission, one man may be left to make the "examination and report" on stock applications from a hundred companies involving some \$20,000,000 in a single year. It is obvious, therefore, in spite of any rounded phraseology, that the accountant's examination must be of the sketchiest nature.

In fact, the accountant's task would be hopeless if companies did not fall into three classes susceptible of different treatment. In the first class are those companies which keep their accounts with integrity and are far-sighted enough to keep their capital as low as the prevailing theory of regulation will permit. Stock applications from companies of this class require no examination beyond a cursory inspection of the exhibit accompanying the application, to detect incidental mistakes.

In the second class are companies which keep their accounts with integrity but have espoused the theory of capital charges with an enthusiasm which encroaches year by year on what were formerly regarded as operating expenses. Their applications can be dealt with by reclassifying the entries of their exhibits.

In the third class are companies whose records and accounts are entitled to no credence whatever, who stop at that the cases mentioned came within the period 1905-1930, that the term "commission" may refer to any of the various administrations of the regulatory authority in Massachusetts from 1905 to the present time, and that any general statement refers only to Massachusetts conditions.

^{*}The experiences related in this paper are drawn from the writer's service with the Department of Public Utilities of Massachusetts and its predecessor the Gas and Electric Light Commission. Names and citations have been omitted from a desire to make only a general presentation of an aspect of regulation: noting merely

nothing, and would capitalize the janitor's salary if they could. It is applications from this class which are the bane of the accountant, and for which special methods must be devised. It is no use to work with a company's exhibit if it is conceived and carried through with fraud. It is impossible to make a detailed audit both because the trail is kept cold by several years and because the charges aggregated into a capital account are so numerous that a year's work might be involved in wading through a single application amounting to only a few hundred thousand dollars. The only hope of dealing with such companies is by an indirect approach, and the most promising indirect approach is through the work of an engineer.

The engineer brings to the practice of regulation slight respect for the canons of accounting, and a knowledge of what things ought to cost under given circumstances, whether they did or not; he can work almost independently of accounts by using such facts as can be established by an inspection of the physical property. He can visualize the various plants, hold them in memory, and recall items which may appear in more than one application or which have dropped out of sight, but not out of the capital account, between applications. Also he soon learns the traits of shifty managements and knows where to look beneath the surface for things which have been covered up.

But, although the engineer is equipped to deal in a summary manner with faked records which would baffle an accountant, he has difficulties of his own, especially in the cases of companies which, however honest, are inclined to carry the theory of capital charges to the permissible limit. The distinction between operating and capital expenses seems clear enough when set forth in the

state's classification of accounts, but in practice the distinction is often difficult to make. It is often difficult to separate a complex expense into its components—operation, depreciation, and betterment. It is often difficult to discriminate between a high cost, attributable to collusion and indirect profits, and an equally high cost occasioned by simple extravagance. But in the midst of his difficulties the engineer is often assisted by being mistaken for a bigger fool than he really is.

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When the gas company of X—applied for an issue of stock to finance the construction of a new gas manufacturing plant some years after the work had been completed, I anticipated trouble.

The company had just gone through the formality of a receiver's sale to an old-time contractor who in his heyday had built many gas plants either as a speculation or as agent for publicspirited citizens too elated with the novelty of their position to look closely at the bill. Among his ventures had been this very plant at X—, which for some reason he had never been able to unload, but had been obliged to operate himself. Slowly but inevitably it had During his passed into receivership. term of office the receiver had allowed the contractor to squat on the premises and build a new manufacturing plant at his own expense. The receivership over, and enough time having elapsed to let the trail grow cold, the owner, as the company, set out to acquire the works which he, as squatting contractor, had built.

Superficially the maneuver had all the earmarks of the subsidiary construction company which is sometimes employed to keep details out of sight, but nothing could be further from the old contractor's mind than concealing anything. He not only offered to permit his contracting accounts to be examined, but presented a special set of books he had kept for this particular job—ledger, day book, receipted bills, and timebooks, all complete.

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At first the only cloud in the sky was the fact that the time-books were too clean ever to have lived on a construction job, and no workmen, unless sentenced to hard labor, had ever functioned with the regularity indicated by the daily record in the books. Then an inspection of the works gave the impression that they had cost about twice as much as they should. Furthermore, in looking over the photographs in my files I found one taken from the window of a passing train, which showed the job in a preliminary state some two months after the time-books showed that the work had been completed.

Yet when the ordinary tests of consistency were applied to the submitted data, they checked admirably. quantities of materials agreed among themselves-there was just the right amount of cement, sand, and stone for the concrete—and the amount of labor agreed with the quantity of material. In fact, it was the most perfect agreement I had ever encountered, and no wonder: a lifetime of experience lay behind the Finally, in search of an unanswerable demonstration I measured the plant, calculated the various quantities which had entered into its construction, and compared the calculated quantities with those shown by the receipted bills.

Then the essential inconsistency came to light. The materials had been purchased, as the receipts showed, but they had never been brought onto this particular job, and the time-books had been

faked to agree with the hypothetical quantities. When this bit of evidence was brought to the attention of the straightforward old contractor, he was quite willing to amend his application to correspond to a very low estimate for the cost of the work.

* * * * *

It is seldom that circumstances or native ability permit records to be falsified at the source; usually companies addicted to tricky ways are content to recast original entries in making up their exhibits to the state. They rely on the well understood fact that a detailed audit is impossible in every case, and in any particular case it is so improbable that the possibility may be ignored. The indirect approach of an engineer's estimate they are always ready to meet with a demand for a hearing on its merits and with an overwhelming array of expert testimony in their support overwhelming, in the sense that almost any lot of lawyer-commissioners, having no technical judgment themselves, will be inclined by the "preponderance of evidence" at least to compromise. Even half the hoped-for inflation is so much clear gain.

That, approximately, was the attitude of a holding company which operated a chain of electric companies scattered through the State.

The commission had been advised that the companies of the chain were padding their capital accounts, and it had attempted to compensate by authorizing only three-quarters of the securities the exhibits pretended to justify. On being subsequently advised that the accounts still showed inflation, the commission notified the holding company that unless there was a marked change in its attitude toward capital charges a thorough examination would be made the next time a member of the chain

brought in a stock application. There was a trace of pity in the bland smile of counsel when he averred that an examination by the commission would

always be welcome.

When the next application came in, true to form, an examination was ordered. By this time counsel had lost some of his assurance. An examination, of course; but he had supposed the exhibit would speak for itself. The payrolls for manual labor alone accounted for over half the entire expense, and the overhead—"accounting and supervison"—amounted to a very reasonable 4%; but, if the commission thought it advisable to inquire further, the supporting vouchers would be produced.

After a few months the vouchers were produced, and counsel kindly outlined my work. Here was a copy of the exhibit which accompanied the stock application. In these boxes were all the supporting vouchers—classified payrolls, receipted bills, and what-not. I could check the vouchers against the exhibit or I could save time by ignoring the vouchers and make my own estimate of the cost of the property which had been acquired.

Time being no object to a public servant, I elected to check the so-called vouchers, which were really nothing but requisitions from the local to the central office. A few days later something of

passing interest came to light.

The management was scared. In the exhibit submitted to the commission, "accounting and supervision" had amounted to only 4% of the total, but in the aggregate of the vouchers it amounted to over 10%. Evidently the central office had decided its system was running a little too strongly, in view of the threatened examination, and had tinkered its product in the direction of operating expense. Also it was apparent

that the place chosen for padding was the interminable account known as "lines, transformers and meters—labor."

Fortunately, the public utility law gave the commission access to all books, records, correspondence, and memoranda of the companies under its jurisdiction. I requisitioned the timeslips of the line gangs—yellow sheets from out-doors, scrawled with cryptic notations to indicate how the hours were spent—and set about the laborious task of following each man through every hour of the day for a period of three years.

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Months later I had an interesting analysis of "lines, transformers and meters—labor." The analysis showed that "labor" consisted of:

Clerical salaries	32%
Salesmen's salaries, bonuses, and com-	0 ,0
missions	26%
Miscellaneous operating expenses	28%
Labor on line extensions	14%
Total	100%

In other words, the capital-labor account had been padded to the extent of 86%. And, as the labor item was more than half of the total of the company's exhibit, it followed that the 86% inflation of this one item was equivalent

to over 40% of the whole.

The Commission summoned counsel for the holding company and broke the news. On the following day the chairman of the board of directors appeared, declared the result of the examination preposterous, and demanded detailed figures. The chairman of the commission took from his desk a single sheet on which I had noted some choice bits of "labor" on lines, transformers, and meters, and began to read.

"Manager's expenses, Atlantic City convention; Christmas candy, telephone exchange; prizes for flat-iron sales; repairing manager's victrola; ditto, washing machine; sweeping out office"-

"I simply cannot believe a manager of ours allowed such items to get into

the capital account!"

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"It's not what you believe or disbelieve; it's what you know. If you don't know that your capital charges do not contain such items as I have read, it's time you found out."

The chairman of the board of directors had a bad half hour. Yet he had been let off rather easily, for he had been spared a year's work of one J. H. Waitt "setting and removing transformers." Josephine Hermione Waitt was a young woman from his own office who spent her time at the State House abstracting data from our files!

"But what do you want me to do?" he entreated, striving to divert attention from the joke-sheet and provoke some retort, some brief direction or requirement, which he could agree to comply with but still contrive to beat.

"I want you to do what is right. If you don't know what right is, with your years of experience, again I say it's time you found out."

In view of what happened on a national scale a decade later, the subsequent history of this application is of interest.

The director-chairman showed up so poorly that some of his associates were moved to gossip. The gossip spread. Banks heard a rumor and began to look into some things they had bought. Their officials came to the State House and made discreet inquiries. Outside engineers appeared and began to look over the records. The chain, always over-extended, was on the ragged edge of a smash.

What should the commission do? Reveal the condition of affairs, start a panic, and let the smash come before more investors were stuck? (The director-chairman, all bluff gone out of him for once, pleaded for silence, promising reform to the verge of the millenium if he could only have one more chance.) Let the crash of one wretched chain discredit the industry as a whole, drag down the credit of decent companies, and depress the holdings of investors whose securities were second only to government bonds?

For better or worse the commission decided on silence, authorized the full amount of stock asked for, stilled the panic, and saved the chain—at least for the time being. The promised reform came in the measure to be expected.

Some years later I took up a stock application from another member of the chain, and glanced over the make-up of an item in the once familiar account "Lines, transformers and meters—labor." An allocation of the manager's salary was a conspicuous part of the "capital" expense.

There was a quite different back-ground to the application of the Y—Gas Company which desired to purchase a high pressure gas main connecting its territory with that of another company from which its gas supply was originally obtained. Both companies were members of a chain, so the purchase involved only a transfer between members of the same family.

The amount to be paid for the main, and consequently the amount of stock to be issued by the purchasing company and the amount to be written off the plant account of the selling company, was computed by a method which was above suspicion. The original value of the main was taken as the amount capitalized with the approval of the State 20 years before, and the present value was determined by depreciating the original value on the assumption of a 35-year life.

But when I came to scrutinize the original value, it seemed improbably high. Looking into the records of the old capital case I found that the main had been laid by a subsidiary construction company, and that the operating company had paid the construction company a lump sum for the completed main. The officials of both companies were the same, but at the hearing the construction company took the stand that all the commission was entitled to examine into was the operating company's records, which in this case consisted only of the construction company's bill: the details of the business of the construction company, organized under the laws of another state, were quite beyond its jurisdiction. Although the commission had been in existence nearly 20 years, it did not venture to contest this stand.

As a concession, but not an obligation, the construction company had submitted an estimate of its average cost for a mile of main, supported by a little detail. The amount was absurd, and the supporting detail unconvincing, especially the items superintendence, contingencies, and contractor's profit, which amounted to only 15%.

After examining into conditions under which the main had been laid I made an estimate of its probable cost and reported to the commission that the figure on which the company's present estimate had been based, and the figure used by the State in authorizing the original securities, represented an inflation of 100%. That started an animated legal discussion.

Could the State, once having approved securities for property which was still in existence and adequately maintained and depreciated, subsequently set a lower value on it and thereby depreciate securities issued with its approval?

At the quiet suggestion of a commissioner who perceived the real object of the discussion I went to the general manager of the holding company and showed him my estimate. After the excitement appropriate to the occasion had died down, someone remembered that the best defense against libel is the truth, and sent for the records of the construction company—an organization which had been defunct for about 10 years. The records were produced, and the general manager spent an interesting half hour reviewing the work of some of the pioneers of industry whose portraits looked down upon us from the walls. Eventually he spoke.

"I haven't a thing to say. I wasn't born yesterday; I know a lot of things were done in the past which would not be countenanced now. If the commission will authorize the stock called for by your estimate, we won't say a

word."

"'One doesn't need to fear the penalty of one's sins, but the damnable incident of being found out'?" I asked; the only answer was a knowing smile.

There was not even a smile when I returned to the State House and informed the commission that the company had decided to amend its application to conform to my estimate. "All right," said the chairman, and resumed the discussion of other things.

It is well enough to say that things were done in the past which are not countenanced now, but the statement is true for some companies only; not for all. The subsidiary construction company is still employed by the bolder members of the industry, and some of the boldest cast all pretense aside and contract directly with firms owned by one of their officials. But even if these less reputable customs of the past still

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Gas and electric plants are no longer things of mystery to all but the few concerned with their development. In their general aspects the subjects of design and cost are almost common knowledge. Moreover, the institution of regulation is more firmly established than it was 30 years ago when its continuance was dependent solely on the good will of the companies. Regardless of jurisdiction an able commission can cause the records of subsidiary companies to be opened to its examination. It follows that the inflation of capital accounts through indirection must be accomplished by more subtle ways than was customary in the past; it is no longer sufficient to present a bill for two or three times the actual cost of the work.

The difficulty in which the more devious ways of the present involve the engineer is intensified by the fact that the cost of construction is not determinable in the abstract but depends on the ability of the particular company which does the work. High construction cost may represent inflation or it may represent incompetence in the company's construction department. The engineer must therefore be acquainted with the characteristics of the various companies within his jurisdiction.

Years ago I had occasion to report on the construction of a power station which had all the appearance of fraud. The total cost was high, percentage contracts had been awarded to inexperienced contractors, and an official of the company had resigned to go into partnership with one of the contractors as soon as the work had been completed. On the other hand, the power station had been conceived as a regional superpower plant for a holding company, but had been modified during construction to become eventually only a moderate sized plant for an independent local company; the holding company had always behaved in an exemplary manner; and the work had been undertaken in the busy period preceding the United States' declaration of war. Was the high cost the result of fraud or incompetence?

Again I availed myself of the law which gives the State access to every paper in a company's possession and set about reading the correspondence relating to the construction of the plant. At the end of a few days the reason for the high cost was apparent.

In the press of work incident on the war-time extension of its properties, the holding company had awarded contracts wherever it could get them accepted—price, here as elsewhere in those stirring times, was a minor con-The local management which the holding company left to supervise the construction, bewildered at the specter of a huge power station, had been ludicrously incompetent. When an insulator manufacturer advised the vice-president-in-charge-of-construction to wire for shipment of his porcelain at once because the government was about to take over the factory, the vicepresident replied that he would not be ready for the insulators for some months and would like to avoid storage if possible; how long did the manufacturer think the war was likely to last?

In the application of another company nothing caught the eye in a superficial examination of the reported costs. A secondary, short-span transmission line was one of the larger capital expenses. The cost of the line was reasonable enough, and there was nothing suspicious about the supporting detail until I came to a 12-mile right-of-way

across the woods and fields of a rural terrain. The cost of the right-of-way was not in itself unreasonable; \$12,000, or \$1,000 a mile, or \$30 a pole, might very possibly have been paid in that district. But in the name of the agent paid for securing the right-of-way I recognized a man who had extraordinary ability in dealing with a rural populace, and I could not imagine his paying a farmer \$30 for the right to put a pole in a field.

As usual in suspicious cases the trail was cold; in this case by some six or eight years. In the meanwhile the right-of-way agent had retired to a farm of his own in another state. He had not worked directly for the company, but for a firm of electrical contractors from whom the company had purchased the right-of-way complete. The records of the Commissioner of Corporations showed that the president of the electric company had been a member of the contracting firm, and that the firm had been disbanded soon after the line had been built. Also the company had changed hands, several times, and the one-time president had retired from its service.

A subpoena for the ex-president brought him in, but brought little information. He had given the right-of-way agent what money he wanted from the contracting firm's cash, he had kept no record of the payments, and the firm's books had been destroyed upon its dissolution. His recollection was limited to the fact that the total disbursements for the right-of-way amounted to a little more than \$12,000.

However, the right-of-way agent had kept his usual methodical record in diary form, and was quite willing to send it for my inspection. The diary showed that the usual price for a pole location was \$1. A thousand dollars would have covered the rights which had been acquired and his own fee.

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Low construction costs, in spite of substantial inflation, were also characteristic of a power and transmission company which we had an opportunity to investigate after nearly 15 years of

anticipation.

In its early years the company had been exempt from regulation, so its first application to the commission involved a validation of previous financing. Its property had been developed by means of a subsidiary construction company. At the hearing the operating company stated that the costs of the various projects shown in its exhibit were actual costs taken from the books of the construction company. though the costs were low, and it was evident that the work was done with unusual ability, it was also clear that the figures in the exhibit had been contrived by other means than accounting for actual expenditures. Therefore the commission avoided a definite finding and left the integrity of the accounts to subsequent determination.

Soon after the war another stock application gave opportunity for a little investigation. From an inspection of the accounts and the physical property it appeared that instead of operating at cost the construction company added to its expenditures during work on the various projects a series of overhead charges: a 10% contractor's fee, a 5% engineering fee, and another 5% fee for a "financing charge." The officials then explained that the first two charges were made to cover actual expenses of the central office of the construction company which did not appear in the field costs of the various projects, and that the financing fee was used to amortize the discount on the operating

company's bonds. In other words, an operating expense was being transformed to a capital expense through the medium of the construction company's bills. It was also apparent that maintenance expense was being charged directly into construction accounts and that in cases of alterations the plant accounts were not being credited for equipment abandoned or replaced.

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Again the commission made a tentative finding. It ordered the capital account corrected for an estimate of the maintenance and replacement charged in during the period covered by the application, ordered the 5% financing fee discontinued, declared the engineering and contractor's fees excessive, and again left the integrity of the capital account as a whole to subsequent determination.

Some five years later another application came when there was an unusual opportunity for examination, although by this time no investigation could be complete because the company had been in operation for nearly 20 years and had achieved an investment of about \$50,000,000.

The preliminary examination showed the 10 and 5% fees still being charged, maintenance often treated as a capital expense, and the capital account uncredited for abandoned equipment ranging from a hundred dollar choke coil to a half-million dollar power station left stranded by the development of the company's system. Concentrating on a single project which cost less than \$10,000,000, we tried to establish the integrity of the account and particularly to compare the 15% overhead charge with the actual expense of the central office not charged directly into the cost of the project.

A scrutiny of the central office time slips showed that only \$50,000 had been assigned but not charged into this particular project, although the percentage charges amounted to over \$1,000,000. By some process of its own, of which there is no record in the files, the commission deducted over \$2,000,000 from its authorization to allow for excess charges of this nature since the beginning of the company's operation.

But beyond the reach of any practicable investigation there were included in the project single charges ranging from a quarter to a half million dollars for damages or flowage rights, supported merely by an affidavit of an engineer that in his opinion the amounts represented the value of the rights acquired. Over a period of many years, by devious ways—through associated companies and individuals—the holdings had accrued to some subsidiary organization until they were eventually turned over to the operating company in a single entry. The circumstances were suspicious at the time, but the trail was too old and involved to yield to anything but drastic action on the part of the commission itself.

Records which are not susceptible of analysis are not unusual; they may be encountered in companies too small to afford a complicated system of subsidiaries and holding companies. If a contractor can buy a dominant interest in a company or otherwise contrive to encyst himself in the board of directors, he can make an indirect profit from the company and inflate its capital account with impunity so long as he avoids the extremes of absurdity.

As a director, usually as the only active member of the board, he enters into contracts with himself. (If the company should go through the formality of advertising for bids he is the only bidder; other contractors know better than to attempt to do work

which would come under his supervision.) The contracts he makes with himself are not patently biased when considered by themselves, but when viewed in perspective they reveal a definite scheme. When work is plentiful and contracts can be secured at attractive prices, the company has no work done and the contractor is busy elsewhere. When work is not so plentiful, he awards himself a contract with the company. If prices are so low that a lucrative contract would appear in marked contrast with prevailing prices, he has recourse to percentage work done under the supervision of the manager of the company, who, if not a man of his own choosing, is at least dependent on him for his job. When the construction season is over, he carries his crew through the winter on the company's payroll, engaged in special maintenance work or some preliminary construction saved out for a pretext. In other words, the company's development is controlled to suit the contractor's interest regardless of what public service or economy may require.

To those who do not appreciate the human factor in regulation it might seem that such a situation was ideal for the application of the engineer's estimate. Undeniably it is feasible to compare the cost of such a company's development over a period of years with what the cost would have been if the construction program had been planned to suit the company's rather than the contractor's interest. The engineer can demonstrate inflation to his own satisfaction, but conviction ends there. His commissioners have no technical judgment; it is his opinion against that of a very able contractor and his dummy but eminently respectable associates on the board of directors; and the personality which operated so successfully

on a board of reputable business men is by no means ineffective when it is brought to bear on the members of the commission.

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I have watched a contractor work this game for years, until eventually he became so greedy for perquisites that he was charging four or five times the prevailing price for rented equipment and incidental material. Then, when I had secured incontestable evidence extending through an entire construction season I have seen it laughed off as a merry jest. An inexperienced girl in the contractor's office had made a mistake; that was all. Yet every bill containing these amusing overcharges had been approved by the company's manager before it had been paid!

An exceptionally strong commission could cope with such a personality, but for practical purposes the only hope for the public is that the legislature will some time make double dealing unlawful for corporations engaged in the public

service.

In pleasant contrast to companies which intentionally pad their capital charges are those which sometimes experience what may be termed accidental bulges in their plant accounts.

Once when we were looking over an application from a large company which had a very expensive plant but had never given us any uneasiness about its integrity, we happened to scrutinize some of its simpler accounts. In dividing the "consumers' meters" account by the number of meters we got an average figure which was impossibly high. The company at once undertook to verify the account by applying current prices to the number of meters added year by year, but were unable to justify more than \$2,000,000 out of \$2,500,000. Prompted by this discovery we esti-

mated other accounts of a similar nature; the company tested them by accurate calculation, and ultimately wrote off an over-run of more than \$1,000,000 from its books.

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It may seem improbable that such a discrepancy could be the result of accident, but it is no more than is to be expected so long as data for plant accounts originate with those who have no conception of the function of accounting, and accounts are kept by those who have no sense of what their figures represent; so long as the field is interested solely in getting the job done and the office is content to go through a routine with whatever data it happens to get. Plant accounts of public utilities are seldom strictly correct.

I have often had this opinion contradicted by managers aware of their good intentions but inclined to place too much reliance on the magic of accounting, and I have occasionally taken the trouble to review the account of some project which could be analyzed on the spot. The manager's face is always a study when a badly misplaced decimal from field or stock-room is faithfully carried through to the construction ledger. Also the inevitable row between accountants and constructors is likely to be entertaining.

I voiced the heretical opinion one evening to the manager of an electric company while we were watching accountants go through the routine of checking a stock application. The company had recently been taken over by a chain; the manager was not long out of college, and frankly incredulous.

"How come?" he demanded. "How can our accounts help being correct? We take you out and show you the work, we bring you in and show you our bills and payrolls, we show you our cancelled checks. You can verify every single

detail. Take that transmission line: you can scale the map and get the exact distance—"

"All right, just for fun, let's do it."

We scaled a map as long as a stair carpet, figured the length of the conductors, converted feet into pounds, and found the line called for a couple of miles less wire than the vouchers showed had been bought. The manager telephoned to the line foreman and asked if any of that bare four-ought stranded copper had been left over. Sure! There was a mile on the freight platform at F—, and a little more than a mile at H—, both marked to be shipped back for credit.

The manager hung up the telephone, admitted he'd lost that time, but protested it was only an accident. Try another item.

I selected "21 voltage regulators.... \$15,000."

At this confidence returned completely, for a voltage regulator is something as definite and indivisible as an iron safe. But the average price of the regulators was too low for new machines and too high for old ones rewound. Were there some old machines in the lot that had been rewound, and if so where was the credit to maintenance?

Again the manager telephoned, this time to the superintendent of distribution. No, the regulators had not been rewound, exactly, but 12 out of the 21 had been rebuilt; they'd been at the factory for more than a year.

The manager wiped his forehead, but declared it was only a damnable coincidence. Try one more. I did; this time from a section of the exhibit where I knew nothing would be right, and presently there was a silence.

"What do you want us to do?" the young man asked soberly; very soberly, because holding companies are inclined

to show temper about trifling difficulties with the State.

"Do? Nothing, except get over your child-like faith in the infallibility of accounts. Of course, if your conscience troubles you, you can have some credits made in the books."

"But the exhibit isn't correct!"

"Be glad it isn't. If it was, it would mean it had been fudged."

In spite of my reassurance the young manager was troubled. One bright illusion had gone.

* * * * *

Years ago, before "regulation" became an American pastime, the more conservative companies avoided inflation by charging their capital accounts with far less than the cost of the property. One, for instance, charged the cost of material only, and treated all labor as an operating expense. unscientific practices were forbidden when regulatory commissions sprang up through the country and began to devise rules and classifications of ac-Thereafter a company might issue securities for as much or as little of its capital account as it saw fit, but the account itself must be kept by rule. To do otherwise offended the science of accounting, except in the case of municipal plants, which because they are required to retire all bonds within a limited time, have only one kind of expense-operating, either immediate or deferred—and are left free to include in their operating expenses about as much plant or capital expense as they wish.

For companies, only expenses difficult to specify in a general classification may

be treated with discretion.

Discretion bordered on temerity when an excellent power company included in its capital charges \$44,000 for new blades in a couple of turbines. The State's accountant spotted the item as

we were going through the power station, declared it was not a capital charge, and expressed astonishment that anyone should attempt to treat worn-out blades as anything but maintenance. The manager called on his engineer to bear witness that the blades had not been worn out; they had hardly been worn at all. The machines were seldom used and could have gone on with the old blades for years. It was only because new alloys had been invented since the turbines were built that prompted them to take advantage of a general station overhaul and have new blades put in. No, there was no "baloney" about it! The job was a betterment, and a proper charge to the capital account.

Of course, neither contention was strictly correct; maintenance, betterment, and depreciation would all be involved in accurate accounting; but the item was insignificant in a total of millions, the company was conservatively capitalized, and the men were arguing merely to preserve the proprieties and hear themselves talk. The discussion ended abruptly when the treasurer indicated a red entry showing that the \$44,000, originally charged to the plant account along with other work on the station, had subsequently been credited out to maintenance.

"What?" shouted the manager, "You charged that reblading to maintenance after all . told you? You're fired!"

III

That, of course, was only a joke, or a part of the continuing joke which attends the engineer-accountant in the service of a public utilities commission.

Companies have individualities as distinct as the personalities of their several managers, and their plants constantly grow and change to keep pace

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quote enjoy Me with increasing demand and the standards of a rapidly developing art. It is fascinating to watch from the engineer's point of vantage the development of a hundred companies.

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When some of the companies begin to conduct their affairs in violation of the rules and to conceal the violations with a certain amount of skill, interest deepens to concern, for then the engineer has a complicated problem of his own. It is no longer sufficient for him to determine for himself that a company is operating with anti-social intent, as it was when commissions were such simple things that their members could make themselves personally familiar with the managements subject to their jurisdiction. Now he must get evidence in such form that it cannot be denied by commissioners guiltless of any knowledge of the industries they are supposed to regulate, and obsessed with the desire to sit as a court to decide on the respective claims of companies' agents and their own.

From the facility with which companies can secure the ear of a commission it is to be expected that the engineer will sometimes find his report discounted before it is presented, and that he will often feel inclined to consign his work to the waste basket and exclaim over the futility of the whole performance. But in the very extent of his predicament there is often a germ of humor, as when in the midst of an examination of a single project he finds his work stopped and all further inquiry precluded by a crafty decision which announces that he "has made an exhaustive investigation covering the entire period of the company's history." Thereafter he can quote the decision to the company and enjoy the embarrassed grins it evokes.

Moreover, beyond any orders and de-

cisions the commission may make are the decisions of the passing years, which viewed in perspective have a consistency not always apparent in the product of "regulation," as well as a sly humor of their own. For instance, the contractor-owner of the gas company at X—, defeated in his attempt to secure an indirect profit through the capital account, skinned on the quality of service until it got beyond his control and he was obliged to sell out for what he could get before the accumulating fines for violation of standards, week by week, took more than the entire net profit of the company. The chain, which escaped its deserts at the hands of the commission by hypocritical promises, engaged in one stock-flurry too many and was "gobbled" by a larger chain without a flop. The swashbuckling contractor who succeeded in charging his company a dollar a pound for dynamite, ventured into new fields of endeavor, went broke, and vanished. The power and transmission company, which in one way or another dodged regulation year after year, is now face to face with the Diesel engine—something singularly unresponsive to the tricks of evasion and compromise.

One of the most entertaining indications of the passing years concerns not the regulated, but the regulators. State commissioners decry the strengthening powers of federal boards, the plans of federal power authorities, the claims of those who have become enthusiastic about what municipal plants have achieved without, or in spite of, their services. Can it be that the expensive institution which has colored the American scene for the last 30 years is itself on trial? Can it be that "regulation" has been found wanting in the verdict of the years?

Some Economic Characteristics of Blighted Areas

By ASHER ACHINSTEIN*

URING the summer and fall of 1933, when the Public Works Administration gave promise of an extensive program of slum clearance and low-cost housing, the writer sought to obtain statistical information concerning the blighted areas of a number of large cities. Two questions were uppermost: (1) where are the worst housing areas located, and (2) what is the price at which land can be assembled in these sections? This article is a summary of the information gathered during the lat-

ter half of 1933.

The problem of locating blighted areas would seem to demand a house-tohouse inventory, with a long schedule of criteria of evaluation to assist the investigator in determining the areas which would fall within the category of "blight." Such data as building coverage, age of buildings, width of streets, amount of play and recreational space, number of rooms without windows, number of persons per room, toilet and plumbing facilities, etc., are desirable for this purpose. However, information of this kind was not available. In the absence of extensive surveys of housing conditions in our large industrial centers, census tract1 information was used as a first approximation in determining the boundaries of blighted areas in each of the following 10 cities: Baltimore, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Indianapolis, Philadelphia, Pittsburgh, and St. Louis.

*The writer is indebted to Miss Ciel Heyman and Mr. Harry S. Kantor for assistance in assembling and tabulating the information included in this paper. He is also indebted to the Rockefeller Foundation for financial assistance.

Definition of a Blighted Area

The concept of a blighted area is qualitative. A blighted or slum area differs only in degree from one that is not blighted. For our purpose it is unnecessary to define the characteristics that are generally associated with a blighted area. We have attempted to use a quantitative measure, namely, the median rentals and the distribution of the rental data. Data concerning rentals paid were used as the most serviceable statistical criteria for selecting the areas in a given city containing the worst housing conditions. This approach is an indirect attack on the problem, but it is unquestionably a useful one. The procedure is based on the assumption that, in any given city, where the lowest rentals are paid, there the poorest housing exists. Unsanitary facilities, age, and dilapidated condition of the buildings are all reflected in rents.

The decline of rentals since 1930 does not make the rental structure of 1930 a less satisfactory tool for selecting areas of blight. Census tracts, in which the percentage of families paying less than \$15 or \$20 per month was twice as high as the corresponding percentage for the city as a whole, may reasonably be regarded as containing a very large portion of low-grade housing. In cities with relatively low median rentals the

¹ A number of private organizations in various cities have contracted with the United States Census Bureau to tabulate economic and sociological data for the areas that are known as census tracts. Census tracts are relatively small geographical divisions of cities which are designed to facilitate comparisons for identical areas from one census year to another.

concentration below \$15 and in cities with high median rentals the concentration below \$20 were used as guides in selecting tracts containing poor housing. The attempt was made to select only tracts which could be classed as "family tracts" on the basis of family census data. Tracts far from the center of the city, where rentals were likely to be influenced by the factors of transportation and inaccessibility, were generally excluded.

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There is undoubtedly an arbitrary element which enters into the selection of low rental tracts on the basis just described. Where shall the upper limits which separate a blighted tract from an unblighted tract be fixed? The upper limit could only be determined by local experts and by an inspection of borderline tracts. As was to be expected, in some cases, there were differences of opinion with respect to the borderline tracts. The point of importance, however, is that the tracts which were in dispute do not seriously affect the results in the tables that are presented. (This last statement is, of course, not true of the percentage relation which the population of the blighted area bears to the total population for each city.)

A letter was sent to housing and planning experts in the several cities asking them to indicate the broad boundaries within which the slum areas were concentrated in those cities. Meanwhile, the selection of areas on the basis of relatively low rents was made. A field investigator then called upon housing experts, building department and public health officials, tax assessors, city planners, and others competent to speak with respect to this problem in the various cities. Field trips were made through

these sections, generally with a representative of some branch of the local government or housing organization. The writer also visited most of these cities and discussed the problems of selection with many individuals. On the basis of inspection and the advice of local authorities a number of tracts originally selected were discarded and others were included in the preliminary list which was set up with low rentals as the basis.

Limitations of Census Tract Data

It must be remembered that tracts vary frequently in the homogeneity of the existing housing conditions. Iuxtaposition of good and bad housing is a common occurrence in large cities. Variation within census tracts is shown clearly in the detailed data of the distribution of the rentals and of values of owned homes. In some instances, tracts containing relatively small strips of bad housing were omitted because the proportion of such housing was so small that the data for the tract as a whole obscured the actual condition of the substandard section. Two cities containing approximately equal proportions of residential blight may differ substantially in the percentage of families in the areas here selected, if the census tracts in one case are uniformly blight and only partially blight in others.

If census tract data were to be employed in selecting areas to represent different major blighted regions, only whole census tracts could be used. It should also be noted that in some cases experts connected with local housing organizations were more conservative than others in the demarcation of blight areas for their cities and appeared to select only the worst sections rather than major areas of predominantly substandard housing. In the absence of a block-to-block inventory, considerable reliance was placed upon the knowledge

² Tracts that contained extensive rooming house districts or that had a high percentage of commercial buildings were excluded.

and judgment of these experts. Generally, there was agreement between the census tract method and the selection of the local experts, but in case of conflict between the mathematical rule and expert opinion the latter usually prevailed. This fact explains partially the variation of the percentages of each city's families included in the blight area. It is further to be remembered that the blighted areas selected in each city do not include all bad housing in the city and that not all housing in each blighted area is substandard.

Despite the above mentioned limitations it is the writer's opinion that the census tract is a valuable tool which it would be folly for the student of housing to neglect. The data on rentals, value of homes, ownership, type of dwelling, nativity and color of head of family, and other social data not included in this article are basic to administering a hous-

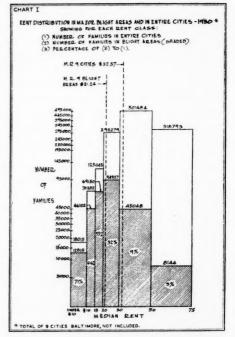
ing program.

The total population of the nine cities in 1930 was 9,872,104 and of the blighted areas, 1,626,367.3 In other words, 16.5% of the total population of cities for which census tract materials were assembled lived within boundaries of the selected census tracts which purported to represent the greatest concentration of poor housing. The total number of families included in the blighted areas of the nine cities was 377,168, which is approximately 15% of the 2,411,958 families living in these cities in 1930.

Variation in Percentage of Families in Blighted Areas

Table I shows considerable variation among the nine cities in the percentage of families living in the *selected* tracts. The extremes are 11.9% in Philadelphia and 29.4% in Cincinnati. One must be

cautioned against interpreting these percentages as showing that the number of families poorly housed in the latter city is almost 2½ times that of the former. Differences in the original demarcation of tracts, size of tracts, extent of concentration or scatter of neighborhoods of bad housing, as well as the personal judgment of local experts, have influenced the final results. The extent to which low-rental families are concentrated in the selected or blight areas of the nine cities is shown on Chart I. This chart gives for each rent



class in the nine cities, the number of families in the blight area, the total number of families, and the percentages of the blight area families to the total families in each rent class.

The extent of homogeneity of the blight areas is shown on Chart II. The families in each city's blight area were divided into three groups: (A) families

³ Compilation of family data for St. Louis was not available at the time these materials were gathered.

TABLE I. PERCENTAGE DISTRIBUTION OF HOMES, BY VALUE AND MONTHLY RENTAL, IN BLIGHT AREAS AND IN ENTIRE CITIES, IO CITIES

		BALTIMORE			BOSTON	
Item	Entire City	Blight Area	Number in Blight Area as Percentage of Entire City	Entire City	Blight Area	Number in Blight Area as Percentag of Entire City
Population. Number of families. Owned homes. Value under \$2,000 \$2,999. 3,000 to \$2,999. 3,000 to \$4,999. 7,500 to 9,999. 10,000 and over. Not reported. Rented homes Rental under \$10 \$10 to \$14. 15 to 19. 20 to 29. 30 to 49. 50 to 74. 75 to 99. 100 and over. Not reported.	40.6§	177,829 42,105 100.0% 4.0* 30.5† 41.2 15.0 2.9 3.8 2.6 100.0 25.0‡ 48.1§	22.1% 21.7 12.5 36.4 27.0 13.7 6.8 5.0 4.7 14.6 31.0 67.6 36.8	781,188 179,200 100.0% 3.53 26.0 18.4 30.1 2.1 100.0 .6 3.8 8.5 22.6 40.9 16.9 3.3 1.8 1.7	167,701 35,973 100.0% 14.4 17.0 27.5 21.5 7.2 10.1 2.2 100.0 1.9 12.2 23.6 43.1 15.4 1.4 .2 1.9	21.50 20.1 13.99 61.7 47.3 24.99 11.5 5.5 4.7 71.4 61.9 42.4 8.3 1.9 1.6 3.0 24.6
	I	BUFFALO		CH	IICAGO	
Population. Number of families Dwned homes. Value under \$2,000 \$2,000 to \$2,999 3,000 to 4,999 5,000 to 7,499 7,500 to 9,999 10,000 and over Not reported Rented homes Rental under \$10 10 to \$14. 15 to 19. 20 to 29. 30 to 49. 50 to 74. 75 to 99. 100 and over Not reported	573,076 139,860 100.0% 1.1 3.2 16.9 31.6 17.0 28.2 2.0 100.0 0.9 4.1 11.0 24.4 39.4 13.3 2.9 2.1	159,088 34,258 100.0% 2.7 8.1 32.8 34.7 9.0 11.4 1.5 100.0 2.5 10.8 27.5 37.0 16.1 3.0 .9 .8 1.4	27.8% 24.5 20.7 53.9 51.9 40.3 22.8 10.9 8.3 15.4 27.3 75.6 72.1 68.3 41.3 11.2 6.1 8.7 9.8 21.0	3,376,438 842,578 100.0% 1.4 3.0 12.6 26.2 21.1 34.3 1.4 100.0 0.9 3.0 5.9 14.2 25.6 32.6 10.6 5.3	475,828 111,172 100.0% 4.2 9.5 27.4 28.6 10.8 17.6 1.9 100.0 5.1 15.7 26.9 33.5 14.1 2.7 .6 .4	14.19 13.2 10.2 31.4 32.7 22.3 11.1 5.2 5.2 14.5 82.7 75.1 66.2 34.3 8.0 8.0 1.2 8.4
	C	INCINNATI		CL	EVELAND	
Population	451,160 122,511 100.0%	128,058 36,010 100.0%	28.4% 29.4 7.7 16.8	900,429 221,502 100.0%	134,278 31,339 100.0% 2.3	14.9% 14.1 6.7 12.1

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[†] Value \$1,500 to \$2,999. ‡ Rental under \$15.

[¶] Rental \$50 to \$99.

TABLE I. PERCENTAGE DISTRIBUTION OF HOMES, BY VALUE AND MONTHLY RENTAL, IN BLIGHT AREAS AND IN ENTIRE CITIES, 10 CITIES—(Continued)

		CINCINNAT	ï		CLEVELANI)
Item	Entire City	Blight Area	Number in Blight Area as Percentage of Entire City	Entire City	Blight Area	Number in Blight Area as Percentage of Entire City
3,000 to 4,999	14.8%	29.1%	15.1%	16.3%	29.2%	12.1%
5,000 to 7,400	26.5	31.0	9.0	36.6	35.2	6.5
7,500 to 9,999	19.7	12.9	5.0	21.6	12.6	3.9
10,000 and over	21.9	13.0	3.1	20.0	12.7	4.3
Not reported	1.6	1.8	7.0	1.3	1.5	7.7
Rented homes		100.0	42. I	100.0	100.0	18.4
Rental under \$10	3.8	6.9	76.4	0.9	2.6	55.4
\$10 to \$14	13.0	22.2	72.2	3.7	9.7	47.8
15 to 19	16.5	24.4	62.5	7.6	17.6	42.4
20 to 29		28.1	47.6	23.6	40.9	32.0
30 to 49	23.8	13.1	23.1 9.6	43.8	23.7	9.9 3.9
50 to 74	11.0	2.5	7.5	15.5	3.3	5.0
75 to 99			14.7	1.4	.5	6.8
Not reported	1.7	1.4	33.5	1.1	1.1	17.8
	I	NDIANAPOL	JS	PF	HILADELPHI	A
Population	364, 161	50,063	13.7%	1,950,961	248,702	12.7%
Number of families	98,610	12,839	13.0	458,627	54,624	11.9
Owned homes	100.0%	100.0%	7.1	100.0%	100.0%	7.8
Value under \$2,000	6.4	29.0	32.0	2.6	6.3	18.5
\$2,000 to \$2,999	11.3	28.8	18.0 6.7	7.7	14.0	14.2
3,000 to 4,999	30.9	29. I		29. I	35.8	9.6
5,000 to 7,499	28. I	9.0	2.3	34.8	25.3	5.7
7,500 to 9,999	9.4	1.8	1.4	11.4	7.1	4.8 6.2
10,000 and over	13.0	1.0	. 5	13.0	10.4	6.2
Not reported	1.0	1.3	9.1	1.3	1.2	6.6
Rented homes	100.0	100.0	17.1	100.0	0.001	16.3
Rental under \$10	2.3	6.8	50.6	0.7	2.6	60.7
10 to \$14	9.8	25.6	44.7	4.0	16.3	66.5
15 to 19	15.4	30.2	33.6	6.5	20.0	50.4
20 to 29	26.4	26.3	17.1	22.9	32.6	23.3
30 to 49	30.5	9.2	5.1	44 · 4	19.7	7.2
50 to 74	11.0	.7	1.0	13.7	4.3	5.1
75 to 99	2.2	.1	.8	3.1	1.1	5.9
Not reported	I.I I.I	I.I	16.3	3.0	2.0	7.1 19.4
	P	TTSBURGH		ST	. LOUIS	
Population	669,817	84,820	12.7%			
Number of families	155,079	18,848	12.2			
Owned homes	100.0%	100.0%	6.7	100.0%	100.0%	5.1%
Value under \$2,000	3.1	5.1	11.2	4. I	6.2	7.8
2,000 to \$2,999	5.7	9.0	10.6	6.5	13.9	10.9
3,000 to 4,999	19.3	28.1	9.8	22.6	36.8	8.4
5,000 to 7,499	26.1	30.7	7.9	28.0	25.2	4.6
7,500 to 9,999	15.0	11.9	5.3	16.2	7.9	2.5
10,000 and over	30.0	14.2	3.2 6.3	21.6	9.3	2.2
Not reported	0.9	.8	6.3	1.0	. 8	4.0
Rented homes	100.0	100.0	15.8	100.0	100.0	23.3
Rental under \$10	1.0	2.7	42.6	2.6	8.1	- 72.4
10 to \$14	4.8	10.4	34.2 26.1	7.9	23.8	70.7
15 to 19	9.3	15.3		12.2	28.9	55.1

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Table I. Percentage Distribution of Homes, by Value and Monthly Rental, in Blight Areas and in Entire Cities, 10 Cities—(Continued)

	1	PITTSBURG	H		ST. LOUIS	
Item	Entire City	Blight Area	Number in Blight Area as Percentage of Entire City	Entire City	Blight Area	Number in Blight Area as Percentage of Entire City
20 to 29	23.1% 33.4	29.6% 32.3	20.3%	22.4% 34.3	27.3% 8.5	28.5% 5.8 3.4 2.8
50 to 74	33·4 16.0 6.5	6.7	6.7	13.9	2.0	3.4
75 to 99	6.5	1.4	3.4 2.1	3.4	.4	2.8
100 and over	5.1	·7		2.3	.3	3.2
Not reported	0.8	.8	15.2	1.0	.7	17.2
	TO	OTAL				

Population	9,872,104	1,626,367	16.5%		
Number of families	2,411,958	377,168	15.6		
Owned homes	100.0%	100.0%	9.3		
Value under \$2,000	2.3	6.1	24.0		
2,000 to \$2,999	5.2	11.4	20.4		
3,000 to 4,999		30.7	14.4		
5,000 to 7,499	29.9	28.0	8.7		
7,500 to 9,999	16.8	9.3	5.1		
10,000 and over		12.9	4.9		
Not reported	1.4	1.5	10.0		
Rented homes		100.0	18.9		
Rental under \$10	1.2	4.5	71.1		
10 to \$14	4.7	16.3	65.6		
15 to 19		24.4	55.3	į	
20 to 29		33.5	31.8		
30 to 49	33.4	15.9	9.0		
50 to 74	21.2	2.9	2.6		
75 to 99		.6	2.0		
100 and over		.6	3.0		
Not reported	3.5 1.6	1.3	15.4		

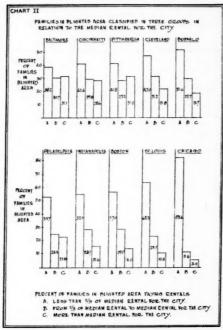
^{||} Total for population and number of families does not include St. Louis for which census tract figures were not available. Total for distribution of owned and rented homes does not include Baltimore because the blight area class intervals were not the same in Baltimore as in other cities.

paying less than $\frac{2}{3}$ of the median rent for the whole city; (B) families paying between $\frac{2}{3}$ of the city median and the median rent; (C) families paying rents above the median for the city.

The proportion of families living in the blight areas paying less than $\frac{2}{3}$ of the median rent for the city varied widely, ranging from 38% in Baltimore to 83% in Chicago. The percentage of families in the blight areas paying more than the median rental ranged from approximately 5% in Chicago to slightly over 30% in Pittsburgh and Baltimore. The qualifications previously mentioned with respect to selection of blighted areas must be kept in mind in interpreting these results.⁴

greater concentration of low rental families in the blighted area tracts that were selected. The exception to this generalization is Pittsburgh, which is divided into 190 tracts with an average population of 3,525. The topography of Pittsburgh makes for a cluster of communities with a mixture of good and bad housing included in individual tracts.

⁴ The original demarcation with respect to size and number of tracts is mainly responsible for the differences shown on Chart II. For instance, to take extreme cases, Baltimore is divided into 78 tracts with an average population of 10,319 and Chicago is divided into 930 tracts with an average population of 3,611. Generally, cities with smaller tract areas showed the



Comparison of Median Rentals

Treating the nine cities as a composite, the average of the median rentals of the nine cities was found to be \$39.04 as compared with \$21.24 for the blighted areas. In other words, families in the major areas of residential blight paid rentals averaging 54.4% of those paid by all families in the nine cities. The median rentals of the blighted areas in each city and the median rentals of all families in these cities were as follows:

City	Median Rental of Blight Area	Median Rental of Entire City	Blight Area Rental as Percentage of City Rental
Boston	\$22.62	\$36.70	61.6%
Buffalo	22.30	34.38	64.9
Chicago	20.53	49.57	41.4
Cincinnati	19.12	26.36	72.5
Cleveland	24.79	36.25	68.4
Indianapolis	17.83	28.28	63.0
Philadelphia	23.09	36.81	62.7
Pittsburgh	27.13	36.81	73.7
St. Louis	18.07	32.58	55.5
Average	21.24	39.04	54.4

Comparison of Value of Homes

The average of the median value or homes owned in the nine cities was \$6,834 as compared with \$5,088 for the blighted areas. In other words, the median value of homes in the blighted areas was 34 of the median value for the cities as a whole. The value figure for the blighted areas approximates more closely than does the rental figure the corresponding city averages. However, the greater margin of error in the data on value of homes owned is in itself sufficient to explain the differences in proximity to the city averages. median values of homes owned for the blighted areas in each city and the median value for the cities as a whole were as follows:

City	Median Value of Blight Area	Median Value of Entire City	Blight Area Value as Percentage of City Value
Boston	\$4,270	\$7,449	57.3%
Buffalo	5,414	7,210	75.I
Chicago	5,692	8,228	69.2
Cincinnati	5,628	7,802	72.I
Cleveland	5,803	6,971	83.2
Indianapolis	2,707	5,083	53.3
Philadelphia	4,624	5,705	81.1
Pittsburgh	5,592	7,058	79.2
St. Louis	4,609	6,456	71.4
Average	5,088	6,834	74.5

Extent of Ownership

As might be expected, the extent of home ownership in neighborhoods of poor housing is less than in the rest of the city. The percentage of home ownership among blighted area families of the nine cities was 3% of the percentage for the cities as a whole. Comparison of the percentage of ownership in the blight areas with that in the city as a whole shows a range in the percentage of relative frequency of ownership from 84.5% in Buffalo to 26% in Cincinnati. The percentage of home ownership within

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TABLE II. PERCENTAGE OF HOME OWNERSHIP FOR BLIGHT AREAS AND ENTIRE CITIES, 10 CITIES

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City	Percentage of Home Owner- ship in City	Percentage of Home Owner- ship in Blight Area	Percentage in Blight Area as Percentage of Entire City
Baltimore	50.2%	28.9%	57.6%
Boston	25.7	17.7	68.8
Buffalo	42.6	36.0	84.5
Chicago	31.1	24.0	77.2
Cincinnati	36.9	9.6	26.0
Cleveland	36.6	17.4	47.5
Indianapolis	41.6	22.6	54.3
Philadelphia	50.7	33.2	65.5
Pittsburgh	40.2	22. I	55.0
St. Louis Average 10	31.3	9.2	29.4
cities	37.9	22.9	60.9

the nine blight areas ranged from 9.2% in St. Louis to 36% in Buffalo (Table II).

Type of Dwelling

Of the 143,698 dwellings in the blight areas of the seven tract cities for which information on the type of dwelling was available, approximately ½ were one-family dwellings, 27.7% two-family, and 22.3% multi-family (i. e., three or more family dwellings). The proportion of multi-family dwellings was considerably

higher in the blight areas than in all other sections of these cities. The distribution by type of dwelling for the seven cities was as follows: one-family, 63.1%; two-family, 24.0%; multi-family, 12.9% (Table III). Although the number of dwellings in the blight areas constituted 14.2% of all dwellings in the seven cities, multi-family dwellings in the selected tracts comprised 24.5% of all multi-family dwellings in these cities.

The variation among the seven areas in distribution of dwellings according to type was pronounced. One-family dwellings constituted 95.0% of all dwellings in the selected tracts of Indianapolis and only 36.3% in Chicago. The corresponding range of variation for twofamily dwellings as a percentage of total blight area dwellings was from 37.5% in Buffalo to 3.6% in Indianapolis, and for multi-family dwellings from 32.2% in Chicago to 1.3% in Indianapolis. The classification of "multi-family dwellings" covers many different types of houses. Two-story buildings housing four families and three-story buildings housing three families are included with the much larger multi-family dwellings such as are found in New York's East Side.

TABLE III. Type of Dwellings for Blight Areas and Entire Cities, 7 Cities

	Total Dwell- ings	One-F	amily Dw	ellings	Two-F	amily Dw	vellings	Multi-Family Dwellings			
City	Number in Blight Area as Percent- age of Total City	Per- cent-	Per- cent- age in Blight Area	Number in Blight Area as Percent- age of Total City	Per- cent- age in Entire City	Per- cent- age in Blight Area	Number in Blight Area as Percent- age of Total City	Per- cent-	Per- cent- age in Blight Area	Number in Blight Area as Percent- age of Total City	
Boston	18.9% 22.3 12.0 20.2 11.9 13.5 10.9 14.2	49.5% 63.5 52.0 66.8 69.2 95.4 77.4 63.1	42.6% 53.0 36.3 41.7 55.6 95.0 67.3 49.9	16.3% 18.6 8.4 12.6 9.5 13.5 9.5	25.5% 31.5 28.9 21.6 23.2 2.8 18.0 24.0	26.0% 37.5 31.5 26.3 27.4 3.6 23.4 27.7	19.3% 26.5 13.1 24.6 14.0 17.8 14.1	25.0% 5.0 19.1 11.6 7.6 1.9 4.5	31.4% 9.5 32.2 32.0 17.0 1.3 9.3 22.3	23.7% 42.6 20.2 55.9 26.4 9.9 22.4 24.5	

Nativity and Color of Heads of Families

Information on the distribution of heads of families with respect to nativity or color was available for all 10 census tract cities, with the exception of St. Louis. The total number of families in the blight areas of the other nine cities in 1930 was 377,168, distributed as follows: heads of families native white, 34.2%; foreign-born white, 45.0%; negro, 19.9%. Only 9.6% of the native white families as compared with 19.8% of foreign-born white and 37.1% of the negro families in the nine cities lived in the blighted areas (Table IV). blight area with the highest percentage of native white heads of families was in Cincinnati, with a percentage of 62.5 in that class. The Cleveland blight area had the smallest percentage (21.6%) of native white heads of families. The extremes with respect to proportion of foreign born heads of families were the blight areas in Chicago and Indianapolis, with 61.5% and 5.6% respectively. The proportion of negro heads of families showed an almost equally wide range,

from 7.4% in the blight area of Buffalo to 50.5% in the blight area of Indianapolis.

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Assessed Valuation of Land and Buildings in Blighted Areas of 11 Cities

The cost of acquiring sites in the blighted areas is one of the most important problems in slum clearance and in the construction of low-cost housing developments. The principal objection to embarking on a large-scale housing program in slum areas is said to be the prohibitive price of land. At what prices can substantial plottage be obtained in the worst slum areas in the larger cities? In the absence of information on sales prices of real property, data on the assessed valuation of land and buildings were used as an approximation to the answer to this question. Persons most familiar with land values in these cities were consulted and agreed that the averages of the assessed valuation data presented below were indicative of the prices at which extensive plottage can be assembled.

With the assistance of governmental and semi-public agencies, figures on the

Table IV. Nativity and Color of Heads of Families for Blight Areas and Entire Cities, 9 Cities*

	N	ative Whi	ite	Forei	gn-born V	Vhite	Negro			
City	Per- cent- age in Entire City	Per- cent- age in Blight Area	Number in Blight Area as Percent- age of Total City	Per- cent- age in Entire City	Per- cent- age in Blight Area	Number in Blight Area as Percent- age of Total City	Per- cent- age in Entire City	Per- cent- age in Blight Area	Number in Blight Area as Percentage of Total City	
Baltimore Boston Buffalo Chicago Cincinnati Cleveland Indianapolis Philadelphia Pittsburgh Average—9 Cities	65.9% 47.0 61.7 50.1 76.8 46.7 81.5 55.5 60.8 55.8	39.1% 31.1 41.0 25.9 62.5 21.6 43.9 34.3 26.2 34.2	12.9% 13.3 16.3 6.8 23.9 6.6 7.0 7.4 5.2 9.6	17.0% 49.8 35.9 42.8 12.8 45.3 6.3 33.2 30.9 35.5	22.7% 60.0 51.5 61.5 11.5 45.0 5.6 47.9 38.7 45.0	29.0% 24.2 35.1 19.0 26.3 14.1 11.4 17.2 15.3 19.8	17.1% 3.0 2.3 6.5 10.3 7.9 12.1 11.1 8.3 8.4	38.0% 8.0 7.4 10.3 26.0 33.0 50.5 17.5 34.9	48.3% 54.2 77.8 20.8 74.0 59.0 54.4 18.7 51.3 37.1	

^{*}St. Lo uis data not available.

assessed valuation of land and buildings per block for approximately 1,384 square blocks in 11 cities were assembled in the course of this study. In a number of cases the compiling of the data represented a great deal of work on the part of the cooperating agencies; assessors' appraisals of individual parcels in each square block had to be added to get the total valuation for each block.

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Several qualifications must be mentioned in the use of this information. (1) The latest available data do not cover current assessment in all cities. Wherever possible, adjustments have been made to bring the assessment data in line with approximate current appraisals of assessors in the respective cities. (2) The number of square feet in the sample secured for each city was not proportionate to the area in the blighted district in each city. (3) The size of the sample in each city was determined by the availability of assessment data. Predominantly residential blocks located in the blight areas of 11 cities were selected for these compilations.

The 1,384 blocks with an area of approximately 126 million square feet were assessed at an average value of \$3.28 per square foot for land and buildings. Exclusive of New York City, the average assessed value per square foot was \$2.09. The averages for the individual cities ranged from 90 cents per square foot in St. Louis to \$11.04 in Manhattan (Table

This information has considerable bearing on the controversy among students of housing as to building in the outskirts of cities versus the rebuilding of slum areas. The assessed valuation data point to the inference that, with the

TABLE V. ASSESSED VALUATION OF LAND AND BUILD-INGS PER SQUARE FOOT IN MAJOR AREAS OF RES-IDENTIAL BLIGHT IN 11 CITIES*

City	Year of Assess- ment	Num- ber of Blocks	Area in Thou- sand Square Feet	Average Assessed Valua- tion per Square Foot
Baltimore	1932	53	4,542	\$2.11
Boston	1932	308	18,289	3.68
Buffalo	1932	60	7,456	1.77
Chicago	Ť	154	21,582	1.23
Cincinnati	1932	219	22,447	2.35
Detroit	1933	156	17,198	1.54
New York City (Manhattan)	1934	128	16,811	11.04
Philadelphia	1932	169	7,174	3.64
Pittsburgh	1932	35	995	4.22
St. Louis	1	92	8,298	.90
Washington D.C.	1930-1931	10	1,174	1.68
Total—11 cities. Total—exclusive		1,384	125,966	3.28
of New York		1,256	109,155	2.09

*Predominantly residential blocks were selected for this compilation. "Blocks" are square blocks, not block front. †Chicago: Assessment of 1928 reduced 25% for approximate 1932 assessment. †St. Louis: Assessment of 1931 reduced 20% for approximate 1933 assessment.

exception of Manhattan, the differences in the price of land in slum areas and outlying areas are not such as to make impossible low rental housing in deteriorated neighborhoods. It will not be possible to erect single-family homes at low rentals at land prices of two and three dollars a foot, but attractive lowcost developments of two-, three-, and four-story apartment buildings with low land coverage can be constructed.

On the basis of this information it is the writer's opinion that the relatively slow progress of slum clearance is not the result of prohibitive land prices. difficulties of slum clearance are caused by the necessity for negotiating with numerous owners, satisfying conflicting interests, exercising the powers of eminent domain, and by the delays resulting from litigation.

Marketing Electric Power in the Depression: A Study of Cases

By LAWRENCE W. CHIDESTER

THE decline in wholesale power sales during the present depression accounts almost entirely for the shrinkage in total gross revenue and in volume of business derived by electric utilities.¹ This decline is attributable to at least three factors: total cessation of some business units; reduced consumption of power by others; and intensified competition of isolated industrial power plants.

Failure of the wholesale market to withstand the depression has caused utilities to recognize definitely the instability of their industrial load. During the depression of 1920-21 the curve of power consumption dipped, but utilities paid little attention to the decline because total sales of electricity were increasing at a rapid rate.² Furthermore, the shrinkage was very slight and thus caused little alarm.

Today the story is quite different. With a substantial reduction in total sales continuing for several years, the utilities have struggled to keep the loss at a minimum. Recognizing the instability of their industrial market, they have turned to the further development of the relatively stable domestic market. The trade journals are filled with plans for increasing the use of electric refrigerators, ranges, air conditioning equipment, and other appliances. But hardly a word is said about measures for restoring the industrial load. Power executives seem to take for granted that nothing can be done about this market; it follows general business and therefore it is bound to be unstable. Perhaps nothing can be done, but since this problem has assumed large proportions for the first time in the utilities' history, it would seem that a searching probe of the industrial market is in order. Representative customers might well be analyzed in the light of new conditions. As an aid in formulating a marketing program, the reasons for the loss or retention of individual loads might well be ascertained.

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This paper presents the results of such a study in the territory of one large eastern utility. A limited number of industrial customers were selected for intensive analysis. Plant superintendents and engineers were interviewed, and in most cases cost data were obtained. Obviously, not all of the cases investigated can be presented in this paper; we shall have to be content with representative customers. Furthermore, conclusions of a general nature will not be drawn because conditions in the territory probably differ from those in other sections of the United States.

Peculiarities of the Market

The utility serves many small manufacturing plants widely divergent in the nature of the goods which they produce. It has but one large customer whose demand at present is 6,000 kw., with a peak in 1929 of 8,500 kw. The next largest customer takes 1,800 kw., and from this point the individual demands

¹ L. G. Cannon, "The Wholesale Electric Business in the Depression," 9 Journal of Land & Public Utility Economics 1 (February, 1933).

² A. E. Patton and O. Gressens, "Influence of Business Cycles on Utility Operation," 2 Journal of Land & Public Utility Economics 40 (February, 1926).

taper off quickly to a low figure. With such a market no one customer, with the exception of the largest, has any pronounced effect upon the utility's total load. Furthermore, there are no prospects of obtaining individual loads of over 1,000 kw., according to utility officials.

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The second important characteristic of the utility's market is its diversity. Practically no two industrial customers in the group studied manufacture the same product. The establishments selected for intensive study make paper, textiles, rubber, machinery, paper products, drugs, leather, candy, and brake lining. Obviously, the utility must obtain great variations in load conditions from such a varied group of customers, even considering recent NRA code regulations as to working hours.

Trend of the Market in the Depression

Despite the diversity of its market and the small size of its individual customers, the utility has had an unstable industrial load during the depression. Table I assembles data from the utility's

Table I. Total Sales of a Large Eastern Utility on its Wholesale Power Rate Schedules, 1928-33

(In Kilowatt Hours in Thousands)

Year	G-ra	te	N-ra	ite	S-ra	Tank	
1 ear		Cus- tom- ers		Cus- tom- ers		Cus- tom- ers	Total Sales
1928	147,084	184	63,608	9	8,787	91	219,479
1929	154,784	196	57,268		10,256		222,308
1930	141,401	205	70,374	9	12,255	96	224,030
1931	121,677	198	48,208		12,713		182,598
1932	108,180	202	41,774	9	10,668	91	160,623
1933	117,578	191	34,854	9	12,107	85	164,540

records which show the course of the industrial market as a whole for the years 1928-33.

Based on total sales, the utility's industrial market seems to have followed the trend of power sales for the whole United States. That is, the decline did not come until 1931, and it reached the lowest point in 1932.3 This shrinkage in power sales accounts in large measure for the decrease in total volume of business, because the domestic load has remained practically stable. Based on the peak year 1929, the volume of sales in 1932 for the whole country was 30% less. For this utility the peak of power sales came in 1930, and the 1932 figure was about 30% off; during the same years the domestic sales increased from 148,-000,000 to 180,000,000 kw. hrs., an increase of about 20%.4 The year 1931 was the first in which this utility showed a decline in total output—from 1,073,-000,000 kw. hrs. in 1930 to 1,048,000,000 kw. hrs. in 1931.

Such total figures are not significant if an analysis is to be made of the effects of the depression upon the industrial power business, for obviously, although the total may be greatly affected, there may be a more important movement among the component parts. Table II, giving the consumption of power by 18 important industrial customers⁵ during the years 1928-33 inclusive, indicates the importance of distinguishing between the total industrial load and the consumption of individual customers. The total industrial load, for example, shows no decline until 1931, while the total for these 18 customers shows a small decline in 1930, the first year of the depression. In other words, the downward movement had actually begun in 1930 among important customers.

A comparison of Tables I and II also shows the great depths to which im-

² Cannon, op. cit.

⁴ From the first issue each year of Electrical World.

⁵ As far as could be ascertained, the industrials in Table II are typical cases with no unusual circumstances present except the depression.

portant parts of the industrial load actually fell. The difference between the peak and the bottom of the valley (1930 and 1932) of the total figures was only 30%, while the same difference in the figures for the 18 customers (1928 peak and 1932 valley) was almost 50%.

Finally, Table II shows clearly the striking effects of the depression upon important individual customers. Some show great variation and instability in their consumption, others show very little variation, while still others actually show an increase in consumption. Such weak spots as Company II with a decline from 45,000,000 to 19,000,000 kw. hrs. should be studied and contrasted with the strong spots as Company 15 which showed an increase from 700,000 to 1,600,000 kw. hrs.

Customers Lost

The utility did not lose a large number of industrial customers during the depression, but those it did lose are interesting because of the light they throw upon certain marketing problems. Two cases will be presented in this section. The first, a Diesel installation, is not entirely a depression case, although later aspects are of recent occurrence. The second is a case of a new turbine installation.

Company 19—Diesel Installation. For several years after its power house was built in 1911, Company 19 obtained a

good balance between steam and power requirements. During the War, however, the demand for power exceeded the demand for steam. To remedy this situation, the Company made a contract in 1923 with the utility under which it agreed to purchase a minimum of \$12,000 of power a year for five years. In order to take utility service, the Company invested \$67,000 in a substation, two rotary converters, and other necessary equipment. The factory is equipped for DC. Table III shows how Company 19 met its power requirements during the years 1927-1933.

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During the first five years of the contract dissatisfaction with utility service seems to have arisen from three sources: (1) cost of the service (to be considered later); (2) interruptions in the service; (3) marketing philosophy of the utility.

In regard to the second point (interruptions in service), it is important to bear in mind that a dip in the flow of power to 30-40% of normal shuts down the rotaries; therefore the power in the substation need not be shut off entirely to cause complete cessation in the factory. Also it should be pointed out that to an engineer an interruption of power for only a few minutes is something that The records of cannot be tolerated. Company 19 show that in 1926 there were 14 complete cessations of service in the substation, 3 in one day, and in 1927 there were 21 cessations, 7 in one day;

TABLE II. CONSUMPTION OF ELECTRIC POWER BY 18 SELECTED INDUSTRIAL CUSTOMERS OF A LARGE EASTERN UTILITY, 1928-1933
(In Kilowatt Hours in Thousands)

Year	Co.	Co.	Co.	Co.	Co.	Co. 6	Co.	Co.	Co.	Co.	Co.	Co.	Co.	Co.	Co.		Co.		Total
1928	1,341	1,676	924	1,081	1,192	1,752	729	545	7,350	583	45,074	1,725	3,347	1,532	682	5,720	3,515	653	79,419
1929			1,141	1,178	943	2,367	870	779	7,669	537	39,768	2,044	3,181	1,555	728	5,946	4,000	691	79,117
1930				1,340		2,580		469	8,757	529	29,719	1,668	3,294	1,269		5,359	2,826	420	68,919
1931			598	1,299	1,207	2,431	17	432	3,194	559	24,527	1,298	3,747	1,669	838	4,115	1,923		54,405
1932				1,067	1,325	1,969	181	413	1,940	197	19,169	1,013	4,448			3,650			43,104
1933	1,177	4,318	517	1,087	1,117	2,321	490	426	2,309	17	22,056	1,324	5,514	999	1,596	3,504	1,172	224	50,170

Table III. Sources of Electric Power used by Company 19, 1927-1933 (In Kilowatt Hours)

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Year	Purchased	Steam	Diesel	Total
1927	1,431,900	1,637,550		3,069,450
1928	1,379,600	1,868,050		3,247,650
1929	1,501,000	1,827,940		3,328,940
1930	1,464,000	1,771,590	59,200	3,294,790
1931	480,200	1,486,725	697,325	2,699,050
1932	280,600	1,587,370	583,870	2,451,840
1933	328,000	1,619,625	659,475	2,607,100

in addition, on many occasions the voltage was low for long periods.

In regard to the third point, Company 19 feels strongly that the utility attempts to apply a monopoly philosophy to the wholesale business. As one official of the Company expressed it: "If it's heads, the utility wins; if it's tails, they also win." Reasonable demands upon the utility were time and again refused or, if they were granted, extra charges were levied. The utility would simply refer to its rate schedule and say: "There it is; we can do nothing about it."

The difference in the marketing philosophies of Company 19 and of the utility was illustrated by one of the Company officials thus: "If a customer comes to us and asks for a rush order, say 24-hour service, that order is going to cost us more. But can we charge that customer extra for that service, especially if he is giving us a large volume of business? No! However, if we go to the utility when we are up against it and ask a favor in the form of an extra load for maybe a half a day, they reply that we can have the power but of course our monthly demand will be affected."

Because of the three grievances mentioned, Company 19 began to speculate upon a power plant of its own, large enough to care for all its needs. In order to ascertain the facts, the Company employed a consulting engineer who began his study in the spring of 1928, using data for 1927. A description of the

power plant as he found it and of the costs of power generated and purchased follows.

Company 19 has three Corliss engines connected to three Crocker Wheeler DC generators, one 150 kw. and two 350 kw. In addition, there is a small 40 H. P. turbine connected direct to a 25 kw. DC generator which is used principally on week-ends when the demand for power or for exhaust steam is small. One department in the factory uses boiler pressure steam for process work while a very few others require pressure at 50 pounds; steam for heat is supplied at 20 pounds.

During 1927 these generators supplied the following electric power:

Engine	Capacity	Annual Kw. Hrs.	Total Hours	Av.Kw. Load
No. 1	25 kw.	15,880	1,000	15.88
No. 2	150 kw.	141,000	1,950	72.20
No. 3	350 kw.	798,920	2,800	285.00
No. 4	350 kw.	681,750	2,780	245.00

1,637,550

The total cost of operating the power house, including fixed charges, was ascertained and an allocation made to steam power and to purchased power. The cost of power generated by the steam plant was determined as follows:

Cost of Steam Power

Engine room operating cost allocated\$4,149
Boiler room operating cost allocated 4,750
Operating cost of steam power\$ 8,899
Fixed charges: Engine room allocation 9,092 Boiler room allocation 1,020
Fixed cost of steam power 10,112
Total cost of steam power 1927\$19,011
Per kw. hr. cost for 1,637,550 kw. hrs.: Operating cost\$.00543
Fixed cost
Total \$.01160

^{67.05%} of the engine room costs and 7.05% of the boiler room costs were allocated to the cost of steam power.

During 1927, according to the engineer's report, Company 19 purchased 1,210,602 kw. hrs. from the utility. The total cost to the Company of this power with allocated operating and fixed costs, was as follows:

was as ronows.	
Cost of Purchased Power	
Purchased power bill\$27,980 Labor*3,268	
Repairs	
Operating cost	.\$32,372
Fixed charges (on substation, rotaries, etc.)	9,991
Total cost of purchased power	\$42,363
Per kw. hr. cost for 1,210,602 kw Operating cost	0267
Total\$	0617

^{*}Labor involved care of substation, rotaries, switchboard, etc.

Note that, according to the engineer's calculations, the cost of generated power was 1.160c per kw. hr. compared to 6.17c per kw. hr., the cost of purchased power. Critics might quarrel with the method of allocating costs used by the engineer. We are not concerned with such a dispute because the utility has been given full access to the books of Company 19 in order to disprove these findings.

In his report, dated September 28, 1928, the consulting engineer outlined six propositions any one of which would correct the poor power and steam balance and provide adequately for future requirements. All the propositions called for changes and additions to the existing steam plant.

Because of excess boiler capacity the engineer recommended Proposition III, the essentials of which were as follows: purchase no power; install a 1,000 kw. bleeder turbine and condensing equipment; operate the turbine in connection

with an engine when necessary for the day load, extracting steam at three pounds pressure and generating the remainder of the power condensing; operate only the engines for the night load after installing a condenser on the 150 kw. engine. The engineer estimated the average day load within three years would be 979 kw., the night load 318 kw., and the peak load 1,460 kw. The new turbine would cost \$70,000, the annuity on which would be \$1,276. Within three years a second turbine would be necessary since the engineer predicted the power requirements at the end of 10 years would be 4,557,043 kw. hrs., a 50% increase over the 1927 consumption.

The total fixed investment involved in Proposition III was estimated at \$139,000. The total fixed charges would be

6% Interest \$	
2% Taxes and insurance	
Depreciation	3,090
-	

Total.....\$14,210

The total cost of generating the entire requirement under this plan was figured to be \$59,764, or 1.311c per kw. hr.

The possibility of Diesel engines was dismissed by the engineer in a single paragraph:

"Consideration has been given to the advisability of installing Diesel engines to replace your present purchased power. On account of the high first cost and consequently high fixed charges, together with high maintenance costs and high priced attendant labor, such an installation would not make a paying proposition in a plant such as yours where a boiler plant of ample capacity is already installed."

Company 19's own engineering staff were not satisfied with this summary dismissal of Diesels. They requested the consulting engineer to look into the matter further, and he finally recommended the installation of a 350 kw. Diesel and

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the purchase of enough additional power to exceed the annual, utility, contract price of \$12,000. He also suggested a new contract with the utility which would exempt a reasonable number of ½-hour periods from the determination of monthly demands. Such a contract would enable the Company in case of emergency to use a stand-by rotary without affecting billed demand adversely.

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The consulting engineer's calculations of the cost of Diesel and of purchased power follow:

Purchased Power

30,500 kw. hrs. per month—350 kw. demand Net bill: 3.26c per kw. hr. Fixed charges on substation, etc.: 3.04c per kw. hr.

Total cost: 6.30c per kw. hr.

Diesel Engine of 350 Kw.

Investment, nuity, \$		life,	20	years; an-
Total fixed c	harges			\$ 5,359
Total annual	cost			14,271
Cost per kw.	hr.:			
Operatin	ng cost			.7721c
Fixed co	st			.4643c
Total			I	.2364c

In this calculation it is important to note that no fixed charges on scrapped equipment were added to the cost of Diesel power. The Company would practically scrap one rotary and would use the substation to less than half of its capacity. Proper charges on this investment should be added to the cost of Diesel power and subtracted from the cost of purchased power. In all later calculations the Company seems to have overlooked entirely this matter of a return on its large investment in substation and rotaries.

That the consulting engineer was not entirely "sold" on the Diesel proposition is indicated in his letter of transmittal where he stated it would be wise to experiment with an engine for three years but at the end of that time the Company might want to consider higher pressure boilers which were rapidly being improved.

Company 19's own engineers favored the Diesel since it would give them power from three different sources. They thought it wise, however, to continue buying from the utility because of the heavy investment in the substation.

The utility countered with a rather weak plan whereby the lighting of the factory would be changed from DC to AC, and current would be supplied direct from the substation through the Company's own switchboard. This would remove a large load from the present equipment and enable the steam plant to take care of the DC requirements of the factory. The total cost of the change was estimated at \$24,135.

The Company did not like the utility's plan. They felt it would be unsatisfactory and even dangerous to have both AC and DC in the factory since employees might get the two lines mixed They enand cause great damage. visaged many occasions when, because of interruptions in service, the factory lighted by AC might be dark while the machinery operated by its own DC might be running. In further support of the Diesel the engineering staff pointed out it would reduce the total cost of power from the present figure of 2.155c to 1.636c.

A new 350 kw. Diesel and DC generator were purchased and installed by November 15, 1930. Based on operation during the first two years, Company 19 calculates it is making 11.6% on its investment (not including a deduction for scrapped equipment). Since this return is at least as great, if not greater, than that received from its regular business, the Company feels the proposition is a good one.

intelligible figures were submitted to substantiate this 11.6% return. Consequently, we shall make our own calculation based on the power generated by the Diesel in 1931—namely, 697,325 kw. hrs. The Company claims an operating cost of 0.5c per kw. hr., including taxes and insurance, which we shall assume for the moment to be correct.

\$1,255.69 month

Purchased power bill 12 months \$15,068.28 (2.16c per kw. hr.)
6% Interest on \$67,000
5% Depreciation 3,350.00
2% Taxes and insurance 1,340.00

\$23,778.28 (3.4c per kw. hr.)

Actual Diesel Cost (697,325 kw. hrs.) Operating cost, includ-ing taxes and insur-... \$ 3,486.63 Diesel.... 3,360.00 5% Depreciation . . . 2,800.00

> Total Cost Diesel Power..... \$ 9,646.63 (1.38c per kw. hr.)

This computation shows a saving of about 2¢ per kw. hr. for the Diesel and a return of about 25% on the investment. It should be pointed out, however, that if the power had been purchased, the total kw. hrs. taken from the utility would have been over 1,000,000 in 1931 and thus the average price would have been lower than 2.16c. In all these calculations the case for purchased power is damaged by the fixed charges necessary on substation equipment. In this case they are greater than those on the Diesel equipment. If the above figures are correct, the utility cannot compete with the Diesel even if fixed charges are included for the Diesel and omitted for

purchased power, and even if the operating cost of the Diesel was raised to 1.00c per kw. hr.

If such a comparison were made at the present time, the case for purchased power would be much better, (I) because the utility's rates were reduced May 1, 1933, and (2) because the price of fuel oil has skyrocketed since late 1933, thus raising Diesel operating costs. Such facts suggest the necessity for caution in estimating long-run Diesel sav-

The production cost of 0.5c per kw. hr. claimed by Company 19 for its Diesel is rather low according to the report on "Oil-Engine Power Costs for 1932" by the American Society of Mechanical Engineers.⁷ Four cases on the Engineers' list are strikingly similar to Company 19 and furnish a basis for They are single-engine comparison. plants with a yearly output of about 600,000 kw. hrs., carrying a base load supplemented by a transmission line. Table IV assembles pertinent data comparing these four cases with Company 19.

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TABLE IV. COMPARISON OF PRODUCTION COST ITEMS OF SELECTED DIESEL PLANTS WITH COMPANY 10'S PLANT

Production Cost Items	No. 494	No. 619	No. 1094	No. 1096	Com- pany 19	
Year Diesel In- stalled Output in kw.	1930	1929	1928	1928	1931	
hrs Kw. hrs. per gal. fuel oil	10.69	588,300 10.32	10.84	11.73	13-15	
Kw. hrs. per gal. lub. oil	917	1,400	1,548	1,037	2,350	
Production cost, in mills	8.49	8.77	7.76	8.35	5.0	

Analysis of these operating results brings the conclusion that the production cost of 0.5c per kw. hr. reported by

^{1 56} Transactions 255-287 (April, 1934).

Company 19 is probably correct—at least for the first year or two. The age of the Diesels was reflected in their efficiency. Company 19's engine, being new, showed from two to four more kw. hrs. per gallon of fuel oil and from 300 to 1,400 more kw. hrs. per gallon of lubricating oil. Whether Company 19 should take 0.5c as its operating cost in computing a long-run saving over purchased power is doubtful; as the Diesel becomes less efficient through age, the operating cost will rise, while at the same time the cost of purchased power is likely to decline through rate reductions.

Company 19 bought a second Diesel engine in 1933. Three reasons were given for this purchase: (1) savings shown by operation of the first Diesel; (2) desire to be entirely independent of central station service; (3) opportunity to buy a second-hand Diesel from a government submarine at junk cost (\$6,000 to

\$7,000).

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The second Diesel and a new DC generator were installed in November, 1933. Initial tests seemed to be satisfactory. Actual operation to March, 1934, with a total of 14,000 kw. hrs. under satisfactory conditions, led the Company to give the utility the necessary 10 days' notice to cut out purchased power. On the tenth day, just as the utility was about to disconnect the line, the shaft of the generator on the secondhand Diesel broke. At first it was thought the break was caused by a defective part but exhaustive tests showed the cause to be torsion from the engine.

That the purchase of the second-hand Diesel may not turn out to be a paying proposition is evident from statistics gathered during the time it was in operation. Comparative operating costs for the two Diesels follow:

	New Diesel	Second- hand Diesel
Kw. hrs. per gallon of fuel oil	13-15	6
Kw. hrs. per gallon of lubricating oil	2,350	125

The second Diesel will show lower fixed charges per kw. hr. when operation is resumed but these savings will become insignificant compared to the much

higher operating costs.

Company 20—New Turbine Installa-This is a case where purchased power was supplanted during the depression by a new steam turbine in an isolated, industrial plant. Before the first improvements were made in 1928, the Company's power plant consisted of 16 boilers whose efficiency was poor and which cost \$10,000 a year for maintenance. An old 1,500 kw. turbine was used to generate electricity for light and power only during the peak hours declared by the utility; these peak hours ordinarily came in November and December from 3:00 P. M. to 5:00 P. M. Company 20's purchases of power from 1928-33 were as follows:

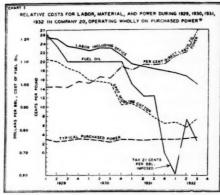
1928.							.8,839,000 kw. hrs.
1929.							.8,893,000 kw. hrs.
1930.							.8,189,000 kw. hrs.
1931.							.9,048,000 kw. hrs.
							.3,525,728 kw. hrs.
							. 1,413,000 kw. hrs.

To obtain greater reliability and economy in its steam plant, two new cross-drum 750 H. P. boilers were installed in 1928 and a third in 1929. The first year of operation showed a saving of \$38,000 on steam costs alone. Note that all electric power was still purchased.

The rising cost of purchased power compared with the cost of labor was one factor which led Company 20 to consider making all its own power. In 1929 the

⁸ Data for Company 19 are for 1931, while data for the other cases are for 1932.

purchased power bill was 14% of the payroll; in 1930, 17%; in 1931, 19%; and in 1932, about 25%. Chart I shows



*Cost of fuel oil per barrel is included. Note increase in power cost expressed as percentage of payroll. (Source: Textile World, January, 1933.)

this trend graphically together with the downward trend of other operating costs. Since fuel oil and coal costs fell consistently during the depression, the Company felt that utility rates should also show a downward trend. The Company's power costs had to be reduced if it was to be able to compete with firms which made their own power either by steam or by water generation.

Other objections to central station service, according to Company 20, were first, its inflexibility, especially in regard to momentary peaks which brought about high demand charges. Also the service was felt to be inflexible during the months when peak hours were declared. It should be pointed out that most industrials grant that central station service is more flexible.

Another objection involved the labor problem. The N-rate of the utility required that an engineer and assistant be employed throughout the year. Since the peak hours came in only two or three

months and the Company consequently made its own power only at those times, old and inefficient men were employed whose services were used but little during the rest of the year.

A fourth objection might be termed psychological. The Company objects to the monopoly attitude of the utility. The manifestation of this attitude, they feel, is found in the various demand and service charges. The Company points out that it competes in the New York market with other manufacturers who have cheap water power; that market is not concerned with the fact that this Company purchases its power. monopoly attitude is inflexible; there is too much emphasis on elaborate calculations of demand, reactive energy charges, minimum charges, and the like. The Company feels that utilities have a top-heavy financial structure, enormous financial charges are added to actual costs of operation, all of which put purchasers of power at a disadvantage when competing with firms which make their own power.

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"The straw that broke the camel's back," to use the words of the plant superintendent, was a change made by the utility on May 1, 1932 in the N-rate clause concerning "term of contract." The old clause read: "Customer may terminate service at any time, subject to unexpired obligations under paragraph 5 of page 2, by giving ten days' notice in writing." Paragraph 5 stated that, if an investment was required not warranted by probable revenue, the customer must underwrite sufficient amounts to warrant use of such investment.10 The new clause as of May I, 1932 says the term of contract shall be

⁹ This does not mean that the cost of power rose absolutely. The payroll declined along with other costs, and thus stationary power costs attracted attention.

¹⁶ The old rate also called for a minimum revenue guarantee of \$6,000 a year. The new minimum is 500 per kw. of service capacity per month plus a capacity charge of \$3,600 per year.

one year and thereafter until service is discontinued at the end of a service year, after receipt of at least 10 days' written notice; but in case of discontinuance, all monthly instalments not then due on previously established yearly demand charges shall immediately become due and payable. Company 20 figured it would cost \$30,000 to discontinue central station service under this clause.

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The immediate result was that the Company changed to the S-rate under which no term contract was required and service could be terminated at any time by giving 10 days' written notice. The reason for this change obviously was to enable the Company to quit the utility service as soon as it could provide capacity to take care of all its requirements. Evidently the Company operated its old turbine during the rest of 1932 and part of 1933 because the consumption of purchased power in 1932 was only 3,525,728 kw. hrs. and in 1933 only 1,413,000 kw. hrs.

The superintendent scoured the East for a used turbine and finally purchased a 2,000 kw. unit from an abandoned municipal plant which had been bought out several years before by the Associated Gas and Electric Company. The unit was 10 years old but it had been used by the municipality only three years. The Company rebuilt the unit and made extensive changes in its power plant.

By the end of 1933 Company 20 was ready to supply its own needs. It still wanted to take central station service at week-ends, and the question of the proper rate schedule arose. Upon examining the S-rate schedule it found that there was a capacity charge of \$360 a

year plus "\$1.00 per month per kw. of rated capacity of the customer's other sources of power installed or replaced in whole or part, . . . after May I, 1931." Obviously, the Company could not continue on this schedule because it would have to pay \$2,000 a month capacity charge in addition to the \$360 yearly charge. Consequently, Company 20 went on the G-rate, which is the general power rate with no off-peak considerations.

This industrial is now taking 150 kws. from the utility on week-ends, but it will soon install a 150 kw. house unit to make the plant entirely independent.

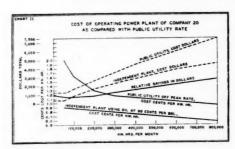
At the present time (April, 1934), Company 20 is making power for 0.9c per kw. hr., including fixed charges and no credit for by-product steam. 11 This cost is in face of a rise in price of fuel oil from 65c to \$1.35 a barrel. In arriving at the 0.9c figure the following costs were considered: new machinery is charged off in five years, or 20% a year, and 6% is allowed on the investment; insurance, taxes, maintenance, and upkeep are charged on the old, 20-year old plant but no depreciation because it had already been fully depreciated; and a small amount is charged for technical supervision but nothing for office, sales, or executive overhead. It should be noted that this Company does not, like many firms, put an excessive burden upon process- or heating-steam load in order to make a low-cost power showing. Much of this industrial's low cost is attributable to a high power factor at the main panel and to a bonus system for fuel oil burned per units generated.12

Chart II gives Company 20's comparison of operating an isolated power plant with the cost of purchased power.

⁸⁰ machine-hours a week where formerly it was operating 120 hours. The result is that the Company makes a more intensive use of power by increasing the amount of power per worker.

¹¹ The writer did not have access to cost calculations made by this industrial.

¹² The NRA has made power costs more and more important. Company 20, for example, is restricted to



Source: Textile World, January, 1983.

Study of this chart makes evident the possible savings in an isolated plant where practically no cost burden is placed upon the process-steam load. According to the superintendent of Company 20, many industrials deliberately give a false idea of their unit cost per kilowatt-hour generated, the loophole being process- or heating-steam requirements. Quite often the

burden placed on these factors is higher than it should be in order to show lower generating costs. Chart II, however, gives no such distorted picture; it led the superintendent to the conclusion that in times of business depression the industrial operating on purchased power is placed under a decided handicap when competing with a company operaing its own power plant.

The second instalment of this article will analyze two examples of whole-sale customers added by the utility during the depression years; the reactions of two prospective customers of the utility; and the attitudes of two industrials which, though much affected by the depression, have long purchased large amounts of power from the utility.

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I. The Taxation of Railroads in the Southeast*

By TRUMAN C. BIGHAM

THIS study deals with the taxation of steam railways since the World War in the Southeast, i. e., during the years from 1921 to the present in the states of Alabama, Florida, Georgia, North Carolina, South Carolina, and Virginia. The problem of railroad taxation has become most acute during the post-war period, in the Southeast as well indeed as elsewhere; and these states constitute an economically homogeneous area in which it is convenient to investigate the subject. This area is fairly well defined from the standpoint of railway service.¹

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The territory selected is known as the eastern or Piedmont section of the South, a region which has recently experienced a marked economic and social development. This has meant greatly increased public expenditures. southward shift of industry, the extensive but naturally expensive program of road construction, the rapid improvement of school systems adequate for the comparatively large number of children of school age, and the reaction from delayed progress in other respects have placed heavy burdens upon the public treasuries. No section of the United States experienced anywhere

near as great an increase in per capita taxes from 1922 to 1929.² Tax collections have practically doubled since the War in the six states.³

With a relatively low per-capita wealth or income, these states have turned, in the effort to raise revenue, to special commodity and general sales taxes to an even greater degree than their neighbors to the north,⁴ but they have been compelled, nevertheless, to rely heavily upon a poorly administered property tax, already firmly imbedded in the tax systems. Property taxes still produce over ³/₅ of the state and local and over ⁹/₁₀ of the local tax revenues. Adverse political conditions and uniformity clauses have made tax reform difficult.

The railroads of the section have borne a large and increasingly onerous part of these taxes. In 1929 they paid 7.0% of all taxes in the six states and 9.3% of the property taxes.⁵ Railroad taxes, in fact, are of greater fiscal importance in the Southeast than in the country as a whole, for they amounted in 1929 in the United States to only 5.0% of all state and local tax collections.⁶ No corporate taxpayers contri-

^{*}This is one of a number of tax studies fostered through grants-in-aid by the Social Science Research Council, under the direction of a sub-committee of its Southern Regional Committee. Acknowledgment is also made for assistance by tax officials.

¹Lack of time and data precludes the inclusion of other southern states; and 1921 was the first full year of private operation of the railroads after the period of government operation.

² See National Industrial Conference Board, Cost of Government in the United States, 1929–1930, p. 80

³ The increase in total state and local tax collections

from 1922 to 1929 was 96.4%.

See Martin, J. W., "Industrial Changes and Taxation Problems in the Southern States," Annals of the

American Academy of Political and Social Science 224-237 (January, 1931). ⁶ Cf. Table I, p. 60infra.

^{*}Total state and local tax collections in the United States in 1929 as reported by the National Industrial Conference Board, op. cit., were \$6,430,833,000; and total state and local railway tax accruals for the United States may be estimated to be \$324,445,000. State and local railway tax accruals for all classes of railways are not reported in Statistics of Railways, although all tax accruals for all railways and state and local and federal taxes for Class I railways are reported. By multiplying the figure for all tax accruals of all railways as given in Statistics of Railways, 1929, p. LXIX, by the federal tax ratio for Class I railways for 1929, which was 22.6%, all state and local railway tax accruals may be approximated.

bute as heavily as do the railroads either to state or local governments, particularly to the latter. Should government ownership prove to be the best solution of the railroad problem, or should a large part of the unprofitable rail mileage in the South be abandoned, the public treasuries in the Southeast would receive a serious blow indeed. The railroads have been prompt taxpayers in many communities where the collection of taxes from individuals has almost broken down. Table I gives a comparison of total, property, and railway taxes in each of the states in 1929, when railway tax accruals were at the peak. The latter have declined somewhat in relative importance since the beginning of the period, because of the adoption by the states of the newer taxes which have had little effect upon the railroads.

The importance of railroad taxation, of course, is not to be measured in the main by the relative amount of taxes paid by the carriers. The subject has greater significance from the point of

view of the difficult administrative problems involved and the effects upon the roads. It is with these, therefore, that we are here primarily concerned. The states of the Southeast, like others throughout the country, early devised special methods for the taxation of railroads, particularly in connection with the general property tax; and a study of the development and application of these methods in the different states should not only point to ways of improving the tax systems as related to the railroads but should also throw some light upon the problems arising in the taxation of similar industries. And tax administration admittedly needs improvement.

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A properly conceived and administered tax system, as far as the railroads are concerned, assumes special significance in the Southeast, in view of the drastic cuts in revenue which the carriers have recently suffered. Inasmuch as about 9/10 of the taxes are based upon property values little related to earning

TABLE I. TOTAL AND PROPERTY TAX COLLECTIONS IN THE STATES OF THE SOUTHEAST COMPARED RESPECTIVELY WITH THE CORRESPONDING RAILWAY TAX ACCRUALS, 1929

	Total T	axes (In Thou	sands)	Property Taxes (In Thousands)			
Jurisdiction	State and Local*	Railway	Ratio	State and Local*	Railway	Ratio	
Alabama Florida Georgia North Carolina South Carolina Virginia Southeast	\$54,082 91,700 65,465 97,299 45,282 80,786 434,614	\$ 3,863 ^b 5,858 ^b 4,691° 5,688 ^d 3,530 ^b 7,214° 30,844	7.1% 6.3 7.1 5.8 7.7 8.9 7.01	\$33,425 72,606 43,432 64,181 26,514 45,536 285,694	\$3,263 f 5,785 s 4,635 h 5,090 i 3,081 i 4,918 k 26,772	9.7% 7.9 10.6 7.9 11.6 10.8 9.3	

⁽a) National Industrial Conference Board, op. cit., pp. 80, 118-119. Similar figures were not available for later years.
(b) Computations from the annual reports of railroads to state regulatory bodies.
(c) Report of the Public Service Commission, 1930, p. 3.
(d) Report of the Tax Commission, 1932, p. 237.
(e) Report of the Corporation Commission, Appendix II, 1929, p. 97.
(f) Unpublished computation by the Tax Commission.
(g) Total railway tax accruals less 1.35% for all licenses.
(h) Total railway tax accruals less 5.6,000 for income and corporation licenses. Income taxes for Class I roads, according to letter, were \$2,5,608 and corporation licenses amount to about \$3,0,000. The gross receipts tax did not apply to all of 1929.
(i) Local property taxes plus franchise tax based on property. (Report of the Tax Commission, 1932, p. 237.)
(i) Includes \$3,56,376 for the special license tax which is found by taking as 42% the total assessed value of all railroads, raising it to 100%, and multiplying the result by three mills. From total railway taxes there were subtracted \$3,2.17 for the gross receipts tax, as reported by the Tax Commission, \$2,3,000 for 1931 municipal license taxes, as reported by the railroads, and \$3,93,000 for the net income tax, as reported of Class I roads by letter.
(k) Total railway tax accruals less gross receipts taxes.
(l) The corresponding ratio for 1922 was 9.0%; for the United States it was 6.5%.

power, or upon gross receipts, tax accruals have absorbed an increasing portion of operating revenues, as well as of net income.⁷ Some roads, indeed, have been able to pay their taxes only through loans from the Reconstruction Finance Corporation or other relief agencies.⁸

The tax burden in the Southeast is even more onerous, as will be indicated, than in the rest of the country, primarily because of the low earning power of the railways. While the taxes per mile are less in this part of the United States and while climate and topography are generally favorable for operation, traffic density is low and competition is keen. Distances are great and cross-state traffic is relatively light, as well as Confined largely to that territory naturally marked off by the Applachian Mountains, with their main stems running north and south parallel to the Atlantic Coast, the railways find themselves in very active competition with motor vehicle and contiguous water carriers, both of which in the Southeast are well situated to bid for railroad traffic. It is significant to note that five of the seven Class I railways in the Southern District in the hands of receivers on July 1, 1933 operate entirely in the Southeast.10

As a background for the study of the administrative problems and relative tax burdens, we shall first summarize the development of railroad tax legislation in the six states. This will be followed by a detailed explanation of the methods now in force, with primary reference to valuation and apportionment. analysis of tax burdens will be confined almost entirely to the railroads themselves. In a sense this leaves the job only half done, for a comparison of the railroad burden with that of competing carriers is of the greatest significance. But available data and resources make such a comparison impossible at present. Something can be gained, however, by presenting the railroad half of the picture and by comparing the relative burdens among the different carriers and among the separate states.

Development of Railroad Taxation Policy¹¹

A review of railroad tax legislation in the states of the Southeast reveals a gradual development from a policy of subsidization and tax exemption to one of special and sometimes discriminatory taxation. In broad outline, but with significant variations, the policy has

¹⁰ Data supplied by the Interstate Commerce Commission. The five roads were the Florida East Coast, the Georgia and Florida, the Norfolk Southern, the Seaboard Air Line, and the Central of Georgia. The other two Class I railways in the Southern District were the Mobile and Ohio and the New Orleans Great Northern; and the former operates in part in the Southeast.

¹¹ The discussion which follows is based upon an examination by the author of the statutes of the different states. To make this examination it was necessary to visit the various state capitals, where the statute citations were taken. An analysis of the development of railroad tax legislation in each of the states is available in manuscript form.

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Georgia, the Florida East Coast, the Richmond, Fredericksburg and Potomac, and the Norfolk Southern. Of those which operate largely in the Southeast, but have a part of their mileage elsewhere, the most important are the Southern, the Louisville and Nashville, the Norfolk and Western, and the Chesapeake and Ohio.

⁷ Cf. Table II infra, p. 65, and Table IX in the next instalment of this article. The ratio of state and local railway tax accruals to total railway tax accruals is greater in the Southeast than in the United States as a whole.

⁸ During the period from February 12, 1932 to June 30, 1933 the Reconstruction Finance Corporation lent over \$22,800,000 to 28 railroads in the United States specifically for the payment of taxes. About \$1,400,000 went to roads in the six states embraced in this study. (Information supplied by the Reconstruction Finance Corporation).

⁹ Fourteen of the 26 Class I railways operating in the region have their entire systems within the six states, the most important terminating on the north in Virginia cities and on the south at Alabama or Florida ports. Prominent among the 14 carriers are the Atlantic Coast Line, the Seaboard Air Line, the Central of

been similar to that in most of the other states throughout the Union¹².

Throughout the first four decades of the railroad era, particularly during the fifties and the "carpetbag" regime of the late sixties, direct subsidization supplemented by tax exemption was the practice. Four of the states, Florida, Georgia, North Carolina, and Virginia, early imposed special railroad taxes by charter or general act, but they too at the same time granted subsidies and tax exemption of one form or another to various railroads.

Direct aid to the railroads took numerous forms: grants of land, loans from state treasuries or state banks, appropriations for surveys, and especially endorsements of bonds and subscriptions to stock. Georgia undertook the construction of a state road. Alabama and Florida led in land grants; Alabama in bond endorsements; and Virginia in stock subscriptions. South Carolina used a variety of forms, favoring for the most part the roads connecting Charleston with Augusta, Georgia and other inland centers.

At first the usual practice was to assist individual companies as they were chartered or when they applied for aid, but as time went on the tendency was to generalize subsidization. In three states, Alabama, Florida, and North Carolina, boards of internal improvement were set up for the purpose of promoting railroad construction on a broad scale. In the other states support was given directly by the legislatures. As soon as the people had become convinced of the enduring superiority of railroads as compared to waterways, public aid was freely given in the Southeast. Here prospects were less inviting e

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Data are not available for determining accurately the value of the entire amount of state aid in the Southeast, but it was without doubt substantial. The indications are that it was more pronounced in this section than in most of the states in the Union. Cleveland and Powell mention definite instances which total more than \$75,000,000, including bond endorsements of \$43,000,000, stock subscriptions of \$28,800,000, and direct loans of \$3,500,000.13 These figures, of course, are not complete, and include neither land grants nor aid from local governments, both of which would add substantially to the total. Gifts of land were especially notable in Alabama and Florida, where large grants had been received from the Federal Government. On the other hand, it should be pointed out that the subsidies were not a clear gain to the companies. Sometimes they did not receive as much as promised; and they were often required to provide free service in return for the favors.

The bond endorsements were made good in part. Those states which had received large grants of lands and had established from the grants internal improvement funds usually made payments only to the extent of moneys

to private enterprise than in the North, and geographical and topographical conditions made imperative the need for railroad service. The pine-barrens along the coast had to be crossed in obtaining an outlet for the staple crops of the Piedmont; and no adequate means other than railroads were available for handling the much desired north and south traffic. The rivers emptying into the ocean were not navigable for long distances, and they did not flow north and south.

¹² Compare Dorau, H. B., Materials for the Study of Public Utility Economics (New York: Macmillan Co., 1930), pp. 471-474.

¹³ Cleveland, F. A. and Powell, F. W., Railroad Promotion and Capitalization in the United States (New York: D. Appleton & Co., 1909), pp. 212-229.

available in such funds. In other states endorsements were either made an obligation of the general revenue or state bonds were exchanged for railroad bonds and stocks. Data showing the extent to which the states actually fulfilled their obligations are not available. Many of the liabilities incurred during the "carpetbag" period were doubtless repudiated. It is to be understood, of course, that most of the bonds were first of all obligations of the railroad companies.

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Accompanying the more direct forms of subsidy was tax exemption, although the latter did not become general quite as early as the former, nor was it as prevalent. Alabama, for example, did not grant tax exemption to the railroads. Exemption privileges were usually incorporated in the charters, but in some cases, as in Florida, general acts were passed conferring the privilege upon all companies which met specified requirements. In a few instances absolute immunity was promised, notably in Virginia; but as a rule there was limited immunity, commonly as to time and occasionally until a certain dividend should be earned. In other cases only specified forms of property were exempt, for example, capital stock; while track, roadbed, and rolling stock were taxed like other property. In still other instances the roads were favored through limits upon the amount of state taxes that could be imposed upon them and through restrictions upon the taxing powers of local governments. As far as can be determined, however, in none of the states were all railroads at any one time completely freed from the tax obligation, although it is certain that they paid few taxes as long as exemption was the general practice.

Subsidization was not officially brought to an end in the Southeast until

the lapse of almost half a century—a much longer time than in the North. Tax exemption received no serious setback until the Civil War placed heavy burdens upon state treasuries. By 1877. however, all of the states had passed restrictive legislation. The change in policy was attributable to the failure of state roads, the abuses connected with state aid, the reaction to "carpetbag" rule, and the rising antipathy toward large corporations in general and railroads in particular. Of course, many years elapsed before the last vestiges of the policy were gone. Certain roads, indeed, are even yet in part exempt from taxes. The companies vigorously opposed the attempt to tax them, but by the end of the century tax exemption was nevertheless quite the exception. The states appointed boards to verify the claims of the roads, brought suit to test them, and reserved in general incorporation laws the right to tax. The courts upheld the state legislation, narrowly construing contracts and holding immunity from taxation not to be transferable. In one way or another the railroads were brought under the general tax laws. The pressure of public opinion was sufficient in one outstanding case to cause the company concerned to submit voluntarily to taxation.

Throughout the period of subsidy and tax exemption some railroads, as previously indicated, had been subjected to taxation. During the earlier years, aside from negligible taxes on certain real estate and enumerated forms of personal property, special taxes were employed, as in Florida, Georgia, and Virginia; but after the middle of the century taxable railroads were required to pay the locally administered general property tax. About 1850 the states had enacted legislation providing for an ad valorem tax upon all forms of

property; and railroad property was naturally treated like other property. There was uniformity in name only, of course, for administration was too weak to bring about true equality. This, indeed, is strikingly true even yet in Taxation under the the Southeast. general property tax in its original form, however, was not especially significant, for the railroads were either exempt from taxation or succeeded in paying a minimum of taxes. In the nature of the case, the railroads, being large in size, complex in organization, and extending beyond the confines of tax jurisdictions, could not be successfully reached through local administration, which is part and parcel of the general property

This fact was soon recognized; and the general property tax, though not completely abandoned, was modified. Special procedures were set up for its application to the railroads. These provisions, primarily concerned with assessment, were made at about the same time that subsidies were discontinued and tax exemption laws nullified. Between 1869 and 1874 all the states required the railroads to report to state officials for the purpose of centralizing assessments of railroad property. The assessment was then made, largely upon the basis of the company reports, and apportioned to the localities on a mileage basis for the application of local rates. This, in rough outline, has been the procedure down to the present. first, assessment in every state was placed in the hands either of ex-officio boards or some state official, usually the comptroller, who was already burdened with other duties. In practice, therefore, the railroads really assessed

themselves, although ineffectual attempts were made through equalization boards to bring about uniformity. It was not until Alabama and South Carolina led the way in 1915, much later than in many states of the Union, that specialized assessment boards were provided. In Florida and Georgia this has not yet been done. The struggle to attain effective administration has been a long and bitter one, marked by much vacillation.

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Centralized assessment, however, did not necessarily mean true unit assessment. As a rule, merely the rolling stock or the franchise was given a unit value and apportioned to the states. Fixed property was valued as a whole only to the extent of its location within the state. North Carolina alone from the first employed what has come to be called the true ad valorem method; i. e., centralized unit assessment of the railroads as going concerns. Alabama did not attempt to assess the railroads as units until 1907, and the other states have not yet done so.15 Centralized assessment has usually antedated goingconcern assessment by a number of years and is much more extensively employed.

Inclusion of the intangible elements of value in railroad assessments was closely associated with another change in policy which occurred in all the states except Florida and Georgia during the last quarter of the nineteenth century and the first decade of the twentieth—namely, the levy of special taxes upon the railroads. The tendency was to require either the assessment of the franchise or the payment of special taxes, or both. It is significant to note that the special levies were usually in

¹⁴ Virginia has attained a measure of specialization by delegating assessment to a separate division of the Corporation Commission.

¹⁶ Georgia, however, assesses the franchise. At pres-

ent, Alabama does not assess all railroad property as a unit.

¹⁶ In a number of instances additional taxes had been levied during the Civil War and later abandoned.

addition to and not substitutes for existing taxes. The new policy was doubtless attributable to a certain extent to a conviction on the part of the people that regulation was not effective in curbing the profits of railroad companies. Moreover, the change was in part a reflection of the general movement toward more stringent control of railroads. An added element was the fact that these great corporations were or could be made to be heavy contributors to needy treasuries. The special taxes, however, do not appear to have been as discriminatory in the Southeast as they were in some other sections of the country, particularly the Middle West, where the Granger Movement was most pronounced.

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More recently, especially since the World War, the railroads, along with other businesses, have generally been subjected to the newer taxes, such as taxes on net income, as these have been added to the tax systems. The new taxes, as a rule, like the earlier franchise taxes, have been additions to rather than substitutes for existing levies. The states have given up but slowly their old taxes. While the idea of discriminatory and special taxation appears to have been forgotten, yet added exactions have been placed upon the railroads with slight regard in some cases, apparently, to the taxes already required of the carriers. There has been little consistency of policy, and great diversity in The program of integration has yet far to go in the Southeast.

Evaluation of Methods Now in Force

The general methods of railroad taxation now in force in the different states and the relative importance of the various taxes are indicated in Table II. Most of the revenue from these taxes goes to the localities. In Florida, Georgia,

North Carolina, South Carolina, and Virginia together, 68% is for local pur-Figures for Alabama are not poses. available. The states in which the property tax is most important reserve least

TABLE II. AMOUNT AND RELATIVE IMPORTANCE OF THE VARIOUS TAXES IMPOSED UPON THE RAIL-ROADS BY THE STATES OF THE SOUTHEAST IN THE LATEST YEAR FOR WHICH DATA ARE AVAILABLE

THE AVAILABLE								
Amount	Percent- age of Total							
\$4,153,092	100.0%							
3,263,208	78.6							
548,343	13.2							
321,255	7.7							
17,526	0.4							
2,760	O. I							
3,406,093	100.0							
3,320,389	97.5							
75,627	2.2							
10,077	0.3							
4,017,177	100.0							
3,936,279	98.0							
41,671	1.0							
29,685	0.7							
9,542	0.3							
5, 284, 873	100.0							
3,295,491	62.4							
1,645,689	31.1							
343,693	6.5							
3,540,198	100.0							
2,700,525	76.3							
422,160	11.9							
(
	10.0							
	1.1							
	0.7							
	100.0							
	67.5							
2,423,991	32.5							
	\$4,153,092 3,263,208 548,343 321,255 17,526 2,760 3,406,093 3,320,389 75,627 10,077 4,017,177 3,936,279 41,671 29,685 9,542 5,284,873 3,295,491 1,645,689 343,693 3,540,198 2,700,525							

(a) Based upon an unpublished computation by the Tax Commission for 1929. Privilege taxes levied by certain municipalities, although not by all, are not included. The figure for all taxes is slightly higher than that computed from the company reports and given elsewhere, for property taxes were estimated by using average rates.

(b) Based upon data supplied by the railroads of Florida

(b) Based upon data supplied by the railroads of Georgia for 1931.

(c) Based upon data supplied by the railroads of Georgia for 1931. The gross receipts tax was not levied after 1931.

(d) Based upon figures for 1931 in the Report of the Tax Commission for 1932.

(e) Based upon data supplied by the railroads of South Caroline for 1931.

lina for 1931.

(f) Based upon data supplied by the Virginia Railway Association for 1930. The property tax is the sum of the taxes imposed upon the different classes of property.

for the state itself. The localities receive over 90% in Florida; over 80% in Georgia; about 80% in South Carolina; but less than 60% in North Carolina; and only 50% in Virginia. The income, gross receipts, and special franchise taxes are used primarily for state pur-

poses.

Perhaps the most outstanding feature of these tax systems is the overwhelming importance of the property tax. In every state it produces by far the largest part of railway tax revenue; and in Florida and Georgia 98%. It is least significant, of course, in those states which have diversified their tax systems. Virginia alone obtains as much as a million dollars from other types of taxes. Of these, the gross receipts tax is the most important; but Virginia is the only state to make significant use of it. The gross receipts taxes of Alabama, Georgia, and South Carolina are of limited scope. The net income tax is found in Georgia, North Carolina, and South Carolina, but its productivity is nominal in the first. The capital stock tax is employed in Alabama and Georgia, but is important only in the former. Instead of the capital stock tax, North Carolina and South Carolina use franchise or license taxes based upon the value of the property.

While the states are alike in holding fast to the property tax, they are highly unlike in levying exactions for the privilege of engaging in the railroad business. Their business taxes are most diverse. No less than eight different bases are used in measuring the value of the privilege. Alabama has three criteria: gross receipts, population, and capital stock;¹⁷ Florida two: mileage and population; Georgia two: net income and capital stock; North Carolina two:

assessed value of the property and net income; South Carolina four: net income, "true value" of the property, gross receipts, and population; and Virginia one, gross receipts.

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The gross receipts or privilege tax of Alabama applies to all railroads, with the exception of independently owned and operated lines which have annual gross receipts not exceeding \$300,000 or which are less than 15 miles in length. The rate is $2\frac{1}{2}\%$ and the base is intrastate receipts only. No attempt is made, with one minor exception, to reach earnings from interstate commerce; hence the revenue produced by the tax has not been great. Assessment and collection are by the state tax commission18. This tax is but one of a general system of license taxes embracing practically all businesses in Alabama. The franchise or capital stock tax is levied at the rate of one mill on the par value of the outstanding capital stock of domestic corporations; and at the same rate on the actual amount of capital employed in the state, in the case of foreign corporations. Capital employed in the state includes the par value of securities issued on account of operating properties located entirely in Alabama and a mileage proportion of the securities representing operating property located partly within and partly without The exact method of earthe state. marking the two classes of securities is not reported. Administration is by the state tax commission. The inspection fee, administered by the Alabama Public Service Commission, is a small charge levied upon intrastate gross receipts, for the purpose of supporting the transportation bureau. The rate varies according to the amount of the receipts, with the proviso that the fee shall not

¹⁷ In addition, of course, there are the two different fees: inspection and permit.

¹⁸ The measure of the tax is gross receipts for the preceding calendar year.

be less than \$25 nor more than \$3,000 in any one year. The corporation permit fee, administered by the state tax commission, is a nominal graduated charge for annual permits. Like the franchise tax, it is based upon capital employed in Alabama by both domestic and foreign corporations.

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The Florida state license tax, administered by the comptroller, stands as originally passed. It is based upon miles of track, although prior to 1931 double track, for some reason, was not considered. The rate is \$10 per mile. The proceeds are divided equally between the counties and the state. The city licenses are, of course, locally administered and bear graduated rates varying from \$10 to \$250, according to population as determined by the latest official census. Some of the municipalities, however, levy licenses under special charter provisions.

Georgia's net income tax is administered by the state tax commissioner and is levied upon the net income from property owned or business done in the state, at the rate of 4%.19 Interest, rents, and gains from the sale of capital assets not received in the regular course of business, but derived from sources within the state, are allocated entirely to Georgia. This applies to all roads, regardless of whether they do or do not operate entirely within the state. With regard to business income there is, however, a distinction.20 If a railroad operates entirely within the state, the tax is imposed upon the whole of the net business income. But if it operates partly within and partly without the state, as is usually the case, taxable income is an apportioned part of the net income as shown under the classification of accounts prescribed by the

Interstate Commerce Commission. Interest and rents received in connection with business in the state and gains from the sale of capital assets located in the state are separately determined and allocated entirely to Georgia. The balance of the business income of the interstate road is then apportionable under rules and regulations to be promulgated by the commissioner. these the commissioner has not yet formulated. The matter has been left to the roads themselves. The commissioner has access to the reports of the companies to the public service commission, but he has not had occasion to resort to them.21 Throughout the last few years, of course, there has been little net income to tax. In auditing the income tax returns for the state, the commissioner is also given the right to examine the returns made to the Federal Government. The corporation license tax, administered by the comptroller, is based upon the par value of the issued capital stock of domestic corporations; and in the case of foreign corporations upon the capital stock and surplus employed in the state. 22 Foreign corporations are deemed to employ in the state that proportion of their entire outstanding issued capital stock and surplus which is represented by the ratio of their property and assets in the state to all their property wherever situated, or by the ratio of the volume of business done in the state to the total volume of business done by the corporations. The rate is \$10 when the capital stock (or capital stock and surplus in the case of foreign corporations) does not exceed \$10,000, and gradually increases to \$5,000 when the capital stock is over \$22,000,000.

¹⁹ State of Georgia, Income Tax Act of 1931, pp. 2, 28. 20 See Corporation Income Tax Return.

²¹ Letter from the state revenue commission.

²² State of Georgia, General Tax Act, 1927, as amended in 1929 and 1931, pp. 14 -21.

The franchise tax in North Carolina is administered by the commissioner of revenue and is calculated at the rate of 9/10 of 1% upon the same base as the ad valorem tax, i. e., the assessed value of all railroad property located in or apportioned to the state.23 The companies file with the commissioner a copy of the return made to the state board of assessment for purposes of the ad valorem tax, from which return (or, if necessary, from other sources) the commissioner ascertains the base for the franchise tax. It is specifically stated, probably for constitutional reasons, that the tax is not intended as a burden on interstate commerce; and all local licenses on business taxed under the act are prohibited. The net income tax, also administered by the commissioner of revenue, is levied at the rate of 6% upon the net income of corporations in general, including railroads.24 Taxable income for corporations generally is defined in a manner similar to the federal law, but for railroads there is a special definition. Those operating wholly within the state are taxed upon the "net revenue from operations" as determined from their annual reports to the Interstate Commerce Commission. revenue from operations" is the figure given in the reports for net revenue from railway operations, increased or decreased to the extent of any debit or credit balance paid or received, as the case may be, on account of car or locomotive hire. Railroads whose business is in part within and in part without the state are taxed upon the net income within the state as ascertained by taking the gross operating revenues within the state, including the "equal mileage proportion within the state" of the interstate business, and deducting from said

gross operating revenue "the proportionate average of operating expenses" for the whole business. The words "equal mileage proportion within the state" mean the proportion of the revenue from interstate business represented by the ratio of the distance of movement in the state to the total distance of movement. The companies are directed to keep their accounts in such a manner as to show for each transaction involving interstate commerce the correct amount of the charge for service allocable to the state as indicated above. The expression "proportionate average of operating expenses" refers to the system operating ratio.

As the law reads, the procedure for calculating the tax seems complex, but it is in reality simple. If the business of the railroad is wholly within the state, the net revenue from railway operations, as reported to the Interstate Commerce Commission, is adjusted as indicated above for car or locomotive hire, also reported to the Commission, and the result is multiplied by 6%. Where the railroad operates both within and without North Carolina, the gross revenue for the state, as shown by the company report,25 is multiplied by the operating ratio, also to be found in the federal report; the result is then adjusted on a proportionate mileage basis for car and locomotive hire, and the 6% rate is applied.

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South Carolina's net income tax, administered by the tax commission, equals 4½% of the net taxable income defined in a manner similar to that already explained for North Carolina.26 The principal difference between the two methods seems to be that no adjustment is made for car and locomotive hire

²³ Revenue Act, 1933, pp. 71-72.

[&]quot; Ibid., p. 86. The constitutional limit is 6%.

²⁵ This figure would be available in the annual reports of the roads to the corporation commission of the state.

²⁶ South Carolina, Income Tax Act of 1926, pp. 41, 44.

in South Carolina. This tax, of course, applies to corporations generally; not merely to railroads. The basis for determining taxable income, however, is different for public utilities. Of special interest is the three-mill special license tax, based upon the "true value" of the property owned and used within the state.27 Unlike the franchise tax of North Carolina which is levied upon the same assessment as the ad valorem tax, this tax is levied by the commission upon the property tax assessment increased to 100%. The valuation for the property tax is 42% of the estimated true value. It is not necessary to equalize the assessment for the special license tax; hence the full value of the property The other South Carolina is taken. taxes require but brief comment. The gross receipts tax, also administered by the tax commission, is a charge of three mills on the gross receipts from business done in South Carolina, as determined from special reports made by the companies to the commission.28 Although the law definitely specifies receipts from "business done in South Carolina," the receipts taxed are found by multiplying the entire gross earnings of the company by the ratio of the miles of line operated in South Carolina to the total miles of line operated. The municipal license taxes vary from \$10 in the smallest places to a maximum of \$2,000 in the largest places.29

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p. 41, 44.

The Virginia gross receipts tax is regarded as a tax on the franchise, and is in lieu of all taxes whatsoever upon the franchise or capital stock. It is a state tax assessed by the corporation commission at the rate of 1½% upon the gross receipts, as apportioned to Virginia, on a mileage-of-road basis. In the case of a road operated wholly

within the state, whose actual operating expenses exceed its gross transportation receipts, the rate is 13/16%. In apportioning the receipts, the average gross transportation receipts per mile of line operated over the entire system are computed and the result is multiplied by the number of miles operated within the state. From the sum so ascertained there may be deducted, however, such reasonable amount as may arise because of any excess of value of the terminal facilities or other similar advantages situated in other states over similar facilities or advantages situated in Virginia. annual registration fee, also administered by the corporation commission, varies from \$5 to \$25, according to the amount of the authorized capital stock as of the first day of each year.

The diversity in methods of taxation in the Southeast is equally, if not more, striking in the administration of the property tax than in the levy of business taxes. Although the railroads are now centrally assessed in all the states, there is variation, among several things, with respect to the type of assessing body, the kind of property assessed by the state, the unitary treatment of the properties, the bases of valuation and apportionment, and the provisions for equalization. Assessment is by the comptroller in Florida and Georgia; by the tax commission in Alabama and South Carolina; by the state board of assessment in North Carolina; and by the corporation commission in Virginia. Operating property only is centrally assessed in Florida, North Carolina, and South Carolina; both operating and non-operating in the other states. The property tax in North Carolina is a local tax, even though centrally assessed; and in Virginia only intangible property (except the franchise, which is not

²⁷ Code of Laws of South Carolina, sec. 2690-A (1932).

²⁸ Ibid., sec. 2685.

²⁹ Statutes of South Carolina, 1920, no. 504.

assessed) and rolling stock are taxable by the state. Alabama and Georgia are the only two states which assess the franchise, although North Carolina may reach the franchise through her unit assessments.

True unitary assessment of the railroads as going concerns is found only in North Carolina. There the assessed value is determined by capitalizing at the rate of 5.75% the four-year average of the net railway operating income attributable to the state. Since the railroads do not report their net railway operating income by states, it is assumed that North Carolina's share of the system net railway operating income is in proportion to her share of the net revenue from railway operations, which is reported by states. The five other states attempt to value the railroads in a more or less piecemeal fashion. They value as a unit only the rolling stock or, where assessable, the franchise.

Property is usually allocated on a mileage basis. In Alabama state apportionment of track and similar property is according to situs; rolling stock and materials are assessed as units and assigned in proportion to miles of line in the state; and intangible property is either reported separately for the state or valued as a unit and apportioned on the basis of miles of line or of gross Tangible property is apporincome. tioned locally according to miles of line and situs; intangible property either on the same basis or according to car mileage. Florida assesses fixed property as located, and allocates rolling stock and other property to the state on the basis of line mileage and to the localities in proportion to track mileage. Georgia an assessment is placed upon the average mile of track and roadbed in the state, according to its nature, and the assessed value for the state is the

product of the number of miles and the average. Personal property other than franchise is assessed to the extent that it is actually located in the state, and both the franchise and the rolling stock are given unit values and apportioned to the state on a line mileage basis. Local apportionment is according to the ratio of the value of "located" property to the total assessed value of all railroad property in the state. The basis for state apportionment in North Carolina has already been indicated. allocation is based upon mileage and investment in tangible property. Apportionment in South Carolina, state and local, is according to mileage and situs. Virginia attempts to secure a more exact allocation. Roadbed and track and other tangible property except rolling stock are assigned to the state as located. Rolling stock is allocated on varying bases, according to kind. Locomotives are assigned entirely to the state if used for intrastate runs, and are apportioned on a mileage-of-run basis if used for interstate purposes. Passenger and freight cars are allocated to the state on a car-mileage basis; work cars on an all track-mileage basis. Taxable intangible property is apportioned according to the miles of road in Virginia. There is no problem of apportioning railroad property to the localities, for they tax only tangible property with a fixed situs.

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While all the states are required by law to assess railroad property according to market or cash value, the bases of valuation actually followed vary widely. Alabama values track, right-of-way, buildings, and the like on the basis of adjusted 1916 book figures. Rolling stock is assessed at cost of reproduction less depreciation, and materials and supplies are taken at inventory costs, as reported by the companies. For this

purpose, rough estimates are made of the amounts ordinarily on hand. Intangible property is usually valued by capitalizing at the rate of 8% the fiveyear average of net income earned in Alabama. None of these bases, however, is followed rigidly; personal judgment plays a considerable part. All property is assessed at 60% of estimated full value—an equalization ratio decided upon more than a decade ago.

Florida assesses railroad property at 30% of estimated market value, in accordance with a compromise made in 1927 with the railroad companies. In estimating the original values, the values reported by the companies are sometimes accepted, sometimes rejected. In case the returns are judged incomplete or incorrect, the comptroller, with the assistance of the attorney general and state treasurer, determines taxable value from data given in the return or from information gathered by an assessment engineer.30 No definite valuation formula is followed. At times, as in the case of the recently reduced assessments made necessary by the depression, earning power is given weight, and cost of reproduction less depreciation is considered; but for the most part book values as reported by the roads are accepted. In allowing for depreciation, the comptroller follows his own formula, which was worked out in 1915. Georgia, like Florida, usually accepts the valuations returned by the companies, with adjustments according to the revenue needs of the state and, of course, for purposes of equalization. Track and rolling stock are reported on the basis of unit valuations arrived at by compromise some years ago; personal property is given in at 60% of market value; and the franchise is valued by capitalizing at the rate of 8% each year's net railway operating income earned in Georgia. The comptroller's office makes no thoroughgoing check or audit of the company reports. The method of valuation in North Carolina has been outlined above.

Railroad property is assessed in South Carolina at 42% of estimated true value -an equalization ratio adopted in 1915, after a study of bank assessments. The basis for finding true value is indefinite; a matter primarily of compromise and guesswork. Neither cost nor earnings are given definite weight. assesses all real and tangible personal property at 60% of estimated market value; intangible property at full value. This ratio was adopted in 1926, after an investigation concerning the extent of underassessment of property in general in Virginia. In estimating true value, no one criterion is followed. Land is generally given the value found by the Bureau of Valuation of the Interstate Commerce Commission. Track, structures, and the like are valued on the basis of cost of reproduction new less depreciation. Values reported as of valuation date by the Interstate Commerce Commission are adjusted upward by about 30% for price changes; additions and betterments, depreciated by about 20%, are added; and the resulting figures are taken as the upper limit for tax purposes. The actual 100% assessed value is set some 10% below this limit. Rolling stock is also valued on the basis of cost of reproduction new less depreciation, but Interstate Commerce Commission figures are not followed. A formula is used, as agreed upon by the companies and the corporation commission.

Equipment purchased prior to 1917 is given a value equal to the sum of the original cost appreciated by 40% (to

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³⁰ The assessment engineer has recently been dismissed.

allow for price changes) and the additions and betterments depreciated at the rate of 3% per year from date of purchase. Equipment purchased subsequent to 1917 is valued at the actual original cost less the 3% annual depreciation charge. Materials and supplies are valued on the basis of book figures.

Some provision is made for valuation hearings in all the states: before bipartite boards in Alabama and Georgia; before tax boards in the other states. As to rates, contrary to the practice in certain parts of the country, all the states apply actual rather than average property tax rates.

The influence of the varying valuation practice is shown in Table III. It is evident, according to the available bases of comparison, that the railroads in the Southeast are not assessed at full value.31 In 1931 the assessed value was about

37% of book value, 51% of goingconcern value, and 37% of estimated value for rate-making purposes.³² 1931 the ratios of assessed to book value varied from 15.2 in Florida to 62.8 in North Carolina; the ratios of assessed to going-concern value from 31.8 in Virginia to 96.2 in North Carolina. The ratio of the assessed both to the book and to the rate-making value was higher in 1921 than in 1931. The percentages in 1921 were respectively 41 and 42.33 Book values, of course, do not fluctuate in close harmony with price cycles, and assessments tend to remain relatively fixed except in times of stress. The rising ratio of assessed to going-concern value since 1929 is clearly traceable to the more rapid decrease of net earnings than of assessments. Going-concern value has fallen much more than assessed value.

Recent valuation data for the railways of the Southeast were not available. Figures reported by the Bureau of Railway Economics were based upon values found by the Interstate Commerce Commission in 58 I. C. C. 229 (1920). The Bureau's values for 1931 were found by adding to the I. C. C. primary values the net increase in book values, less increase in accrued depreciation, plus an allowance for working capital. The difference between these adjusted values and book values is comparatively slight.

³³ Rate-making values were not computed for each state separately, because of question as to the validity of the assumptions which would have been necessary.

31 The shortcomings of these bases of comparison as measures of market value are, of course, recognized.

32 Value for purposes of rates in 1931 may be estimated to be \$2,041,460,000. This figure is found by taking 98.5% of the book value in 1931. The value for rate-making in 1931 for the roads in the Southern Group, as found by the Bureau of Railway Economics in I. C. C. Docket 26,000 (1933), was 98.5% of the book value of the road and equipment for the same group. In using this percentage we assume, of course, that it would be approximately the same for the roads in the Southeast as for the roads in the Southern Group.

TABLE III. ASSESSED VALUE, BOOK VALUE, GOING-CONCERN VALUE, AND RATIO OF THE FIRST IN THE SOUTHEAST,

Jurisdiction	Assessed Value (a) (In Thousands)				Book Value (b) (In Thousands)				
	1921	1929	1930	1931	1932	1921	1929	1930	1931
labama lorida eorgia oorth Carolina outh Carolina irginia Southeast	\$109,644 40,043 99,373 224,462 44,976 147,875 666,373	\$124,772 64,140 118,310 219,055 46,327 210,650 783,254	\$123,885 58,124 117,464 219,055 46,466 215,848 780,842	\$124,107 55,207 115,356 207,896 45,160 217,615 765,341	\$119,696 39,264 99,470 197,317 40,051 194,985 690,783	\$291,846 220,215 334,581 272,575 184,759 314,469 1,618,445	\$359,480 362,303 413,246 333,767 224,904 378,930 2,072,630	\$359,699 363,752 410,012 332,536 226,638 393,117 2,085,754	\$354,82 360,87 407,82 330,58 225,05 393,38 2,072,54

(a) Reported by the auditor in Alabama; the comptroller in Florida; the comptroller in Georgia; the commissioner of revenue and the state board of assessment in North Carolina; the tax commission in South Carolina; and the corporation commission in Virginia. Figures for assements in Georgia are those reported by the comptroller for the state; in North Carolina those reported under total valuation; and in Virginia those for local purposes plus state assessments of rolling stock, intangible personal property, and money on deposit. The figures to be taken in the other states are clearly indicated by the reports. It was not thought necessary to include other years. Those given show conditions at the beginning and end of the period and during the depression.

(b) Investment in road and equipment (including improvements on leased property) plus cash, materials, and supplies, less accrued depreciation, as reported by the Interstate Commerce Commission, allocated on the basis of miles of road. Non-operating subsidiaries, i. e., companies that the property of the Commission as "I'l and "P", are included if so listed in the respective years in Statistics of Ratikays. Information on intercorporate relations was not available for 1932. Where the state reports did not list separately the subsidiaries, it was assumed that their assessments and the subsidiaries is the respect of the respective transitions of the subsidiaries, it was assumed that their assessments are reported to the respective transition of the respective transitions are reported to the respective years in Statistics of Ratikays. Information on intercorporate relations was not available for 1932. Where the state reports did not list separately the subsidiaries, it was assumed that their assessments are reported as the reports did not list separately the subsidiaries are reported as the reports of the respective transition in the respective trans

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Five of the states, of course, as we have seen, do not attempt to assess the railroads at full taxable value; but the inadequacy of valuation practice in the Southeast is evident even after the assessed values are adjusted according to the different equalization ratios. There is not only failure to attain full value, but striking inequalities also exist both as between the states and as between the railways. Table IV indicates the value to which tax rates would have been applied in the different states in 1931 had there been full assessment, and the ratios of these adjusted values to book and going-concern values. In the absence of further information, we assume, for purposes of discussion, that the adjusted values represent each state's estimate of the full market value of the property of Class I railways taxable Every assessing body is required by law to determine for tax purposes the true market value of all property.

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d depreciacompanies n on interheir assessThe estimated full taxable value of railroad property in the Southeast is nearer book and going-concern values than is the assessed value, as would be expected; but the inequalities in the taxable values are about as great as in

Table IV. Taxable Value before Adjustment for Purposes of Equalization and the Ratio of this Value to Book and Going-Concern Values, Class I Steam Railways Operating in the Southeast, by States in the Southeast, 1931

	Taxable Value Before Adjust-	to Bo	f Assessed ook and Concern alues
Jurisdiction	ment (InThousands) a	Book	Going- Concern
Alabama	\$206,845	58.2	114.1
Florida	184,023	50.9	164.5
Georgia	136,889	33.5	69.7
North Carolina	207,896	62.8	96.2
South Carolina	107,524	47.7	86.3
Virginia	511,394	129.9	74.9
Southeast	1,354,571	65.3	89.5

(a) These 'gures are found by adjusting the assessed values reported in 'able III according to the percentages given on p. 71. Personal property was about 28% of all property in Georgia; intangible about 10% of all in Virginia.

the case of the assessed values. The full taxable value for all the states in 1931 was 65.3% of book value; 89.5% of going-concern value; and 66.3% of value for rate-making. The percentages on a book basis varied from 33.5 in Georgia to 129.9 in Virginia; on a going-concern basis from 69.7 in Georgia to 164.5 in Florida. Virginia makes the best showing according to book figures; North Carolina according to earnings. These are the states which employ the most definite bases of valuation. Florida and

TO EACH OF THE LAST TWO, CLASS I STEAM RAILWAYS OPERATING IN THE SOUTHEAST, BY STATES 1921, 1929–1932.

Going-Concern Value (c) (In Thousands)			Ratios								
			Assessed to Book Value			Assessed to Going-Concern Value					
1929	1930	1931	1932	1921	1929	1930	1931	1929	1930	1931	1932
\$265,749 186,543 299,696 287,712 178,316 772,125	\$231,680 151,215 257,939 258,264 157,360 766,527 1,822,985	\$181,283 111,839 196,211 215,996 124,552 682,214 1,512,095	\$131,314 90,771 147,200 171,923 95,095 618,034 1,254,337	37.5 18.1 29.7 82.3 24.3 47.0 41.1	34.7 17.7 28.6 65.6 20.5 55.5 37.7	34.4 15.9 28.6 65.8 20.5 54.9 37.4	34.9 15.2 28.2 62.8 20.0 55.3 36.9	46.9 34.3 39.4 76.1 25.9 27.2 39.3	53.4 38.4 45.5 84.8 29.5 28.1 42.8	68.4 49.3 58.7 96.2 36.2 31.8 50.6	91.2 43.2 67.5 114.7 42.1 31.5

ments were included in those for the operating companies.

(c) The five-year average of the net railway operating income, as reported by the Interstate CommerceCommission, capitalized at 5.75% and allocated on the basis of the ratio of the net revenue from railway operations in each state to the system net revenue. Figures for 1921 were not given because of lack of accurate and comparable data during the war period. The railroads report their operating revenues and expenses by states to the various state bodies: the public service commission in Alabama; the railroad commission in Florida; the public service commission in Georgia; the corporation commission in Noth Carolina; and the corporation commission in Virginia. The bases of allocation vary among the companies, but the general practice is to allocate on a mileage basis. More riest typical are the rules of the Atlantic Coast Line. It apportions the operating revenues by dividing the amount accrued from each shipment, passenger, etc., in proportion to the mileage traversed in the state. Operating expenses are assigned to each state on the basis of system operating ratios, freight and passenger, accruing to each state.

Georgia, where there is ex-officio assessment largely on the basis of compromise and rough estimate, have the poorest records. But South Carolina, also with more or less indefinite assessment criteria, is not far behind.

Although there is no one accepted standard by which to judge the market value of railroad property, within limits earning power is without doubt the best single criterion. On this basis North Carolina is the only state to show up reasonably well. The evidence implies that earnings have been given relatively little weight in the rest of the South-The fairly constant relationship which existed between assessed value and book value at the beginning of the period and during the depression years in the other five states suggests that book value has had, in practice, the greatest influence. This is attributable, in part at least, to the fact that the values returned by the companies are based upon book figures. These values are in large part accepted by the assessing bodies. Diminishing revenues, of course, have forced the states to give some thought to earning power during

the depression. But the rapidly rising ratio of assessed to going-concern value indicates too little consideration.

The inequalities in assessment among the individual carriers may be shown by comparing the assessments of the 14 Class I railways operating entirely in the Southeast (Table V). By selecting these roads a more accurate picture is given of the situation in the Southeast, for it is not necessary to apportion the property. Moreover, from the standpoint of the individual railroad, the assessment of all its property as compared with that of its rivals constitutes the most significant competitive fact. Inequalities as between carriers within a given state are, of course, highly important, particularly from the point of view of equalization. The states equalize more largely upon the basis of comparison of properties within their own borders than upon consideration of valuations in other states. Variations in individual assessment ratios within each state are not, therefore, as great as in those applicable to single carriers operating in several states. The former are marked, however, as can be seen by

TABLE V. ASSESSED VALUE, BOOK VALUE, GOING-CONCERN VALUE, AND RATIO OF THE SOUTHEAST,

Railway (a)		Assessed Value (In Thousands)			Book Value (In Thousands) (b)				
	1921	1929	1930	1931	1932	1921	1929	1930	1931
. & W. P	\$ 3.756	\$ 4,304	\$ 4,304	\$ 4,288	\$3,852	\$ 4,140	\$ 5,359	\$ 5,084	\$ 5,0
. B. & C	8,537	5,548	5,591	5,558	5,190	40,022	24,826	24,177	23,
C. L. (c)	106,367	124,316	125,423	121,325	107,388	213,099	268,175	265,820	260,
of G	34,362	41,530	41,360	41,387	35,716	75.978	97,266	98,006	96,
& W. C	3,149	3,232	3,201	3,145	2,795	9,230	11,317	11,180	11
E. C	8,824	16,091	14,050	13,409	9,131	55,896	115,736	112,871	111
& F	2,567	3,145	2,543	2,349	2,033	17,099	21,577	21,753	21
. (d)	3,121	3,528	3,646	3,483	3,053	13,045	15,306	15,241	15
S. & F	6,725	6,534	6,478	6,134	4.937	12,922	15,870	15,694	15
S	25.313	23,138	23,092	20,657	19,415	35,454	37,401	36,492	36
Δ	2,069	1,960	1,959	1,959	1,772	4,603	5,333	5,295	5
F. & P.	7,285	12,340	11,850	11,895	11,681	22,748	31,258	31,187	30
A. L	76,487	. 84,065	81,315	76,074	65,677	194,937	277,656	281,709	283
R. of A	3,915	4,710	4,710	4,710	4,386	5,549	7,495	7,556	7
Total	292,477	334.541	329,522	316,373	277,026	704,542	934,575	932,065	922

⁽a) The abbreviations in this column represent the following railroads in order: Atlanta and West Point; Atlanta, Birmingham and Coast. Atlantic Coast Line; Central of Georgia; Charleston and Western Carolina; Florida East Coast; Georgia and Florida; Georgia Railroad Lessee Organization; Georgia, Southern and Florida; Norfolk Southern; Northern Alabama; Richmohd, Fredericksburg and Potomae; Seaboard Air Line; and Western Railway of Alabama.

(b) Inasmuch as the entire systems are here included, figures reported by the Interstate Commerce Commission may be used without adjust.

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olina: (d) Beca comparing the assessment ratios of roads operating entirely within a single state with the averages for that state.

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As Table V indicates, inequalities as between individual railways are much greater than those among the different states. In 1931 the ratios of assessed to book value varied from 10.8 in the case of the Georgia and Florida to 84.9 for the Atlanta and West Point; the ratios of assessed to going-concern value from 23.8 in the case of the Georgia to 139.5 for the Georgia and Florida and 168.3 for the Atlanta and West Point. These are comparatively weak roads; but the variations as between the stronger carriers, such as the Atlantic Coast Line, the Central of Georgia, and the Richmond, Fredericksburg and Potomac are also pronounced.

The variations within single states appear upon comparison of the ratios in Table V for intrastate roads with the average state ratios shown in Table III. The Northern Alabama and the Western Railway of Alabama operate entirely in Alabama; the Florida East Coast in Florida; the Georgia in Georgia; and the Richmond, Fredericksburg and Potomac in Virginia.³⁴ No Class I railways oper-

ate wholly within North Carolina. The 1931 book value ratio of the Northern Alabama was 38.3 as contrasted to a state ratio of 34.9; the going-concern ratio was 118.2 as compared with a state ratio of 68.4. The reader can see for himself the inequalities existing in the case of the other carriers which are confined to single states. Inequalities within each state could, of course, also be brought out by allocating the properties of individual roads, but sufficient data have been given to make it clear that variations in the assessments of such railways are great.

With regard to the whole matter of assessment, probably the most important question is the relation of railroad assessments to those of other property. The ratio of assessed to book value or to any other value is of much less moment, provided there is equality of burden. This question, which will be considered under the next heading, together with the conclusions of the study will be presented in the next issue of the Journal.

FIRST TO EACH OF THE LAST TWO, CLASS I STEAM RAILWAYS OPERATING ONLY IN THE 1921, 1929-1932.

	Coina Consern Value			Ratios							
Going-Concern Value (In Thousands) (b)			Assessed to Book Value			Assessed to Going-Concern Value					
1929	1930	1931	1932	1921	1929	1930	1931	1929	1930	1931	1932
\$ 5,622	\$ 4,065	\$ 2,547	\$ 200	90.7	80.3	84.6	84.9	76.5	105.8	168.3	1926.1
Deficit	Deficit	Deficit	Deficit	21.3	22.3	23.1	23.5	Deficit	Deficit	Deficit	Deficit
246,300	201,280	156,627	121,277	49.9	46.3	47.I	46.6	50.4	62.3	77.4	88.5
88,453	82,196	66,990	48,477	45.3	42.6	42.2	43.0	46.9	50.3	61.7	73.6
9,994	8,412	7,546	6,374	34. I	28.5	28.6	28.5	32.3	38.0	41.6	43.8
49,257	34,311	18,649	15,609	15.7	13.9	12.4	12.0	32.6	40.9	71.9	58.5
3.433	2,821	1,683	209	15.0	14.5	11.6	10.8	91.6	90.1	139.5	972.7
18,512	17,459	14,578	11,733	23.9	23.7	23.9	22.8	19.5	20.8	23.8	26.1
12,645	9,080	6,464	5.717	52.0	41.1	41.2	39.3	51.6	71.3	94.8	86.3
27,305	24,643	19,606	12,689	71.4	61.8	63.2	57.3	84.7	93.7	105.3	153.0
3,477	2,707	1,657	756	44.9	36.7	36.9	38.3	56.3	72.3	118.2	234.3
42,654	35,803	30,602	26,040	32.0	39.4	37.9	38.4	28.9	33.0	38.8	44.8
188,684	171,273	138,454	103,046	39.2	30.2	28.8	26.8	44.5	48.4	54.9	63.7
11,027	9,298	7,044	4,453	70.5	62.8	62.3	62.8	42.7	50.6	66.8	98.4
707,363	599,283	472,447	356,580	41.5	35 - 7	35 - 3	34.3	47.2	54.9	66.9	77.6

⁽e) Assessments for the Atlantic Coast Line as reported by the tax commission of South Carolina include those for the Charleston and Western Carolina; hence it was necessary to deduct the latter from the former in South Carolina.
(d) Because of lack of data for 1921 and 1920 it was necessary in the case of certain subsidiaries of the Georgia to use 1931 assessments for 1921 and 1930 assessments for 1929. The amounts involved would be so small as to have practically no effect upon the ratios.

³⁴ This statement ignores a minor part of the Richmond, Fredericksburg and Potomac, which is in the

Value of the Service and Public Utility Rates: Two Case Studies

By CLYDE OLIN FISHER

THE impact of the economic depression in the United States has given renewed emphasis to the value of the service performed as a measure in public utility rate-making. Strangely enough, representatives of the public have not utilized to the full degree possible the pronouncements of the United States Supreme Court as to the significance of value of the service in establishing rate schedules for public utilities during these depression years.

The following discussion is based upon evidence presented to the Public Utilities Commission of Connecticut in two rate cases in which the writer testified in support of patrons of the companies. The testimony in the first of these cases involved litigation between the Portland Water Company and the Town of Portland before the Public Utilities Commission on February 6, 1934. The second case was that between the Ansonia Water Company and the City of Ansonia, the economic testimony in which was given before the Commission on March 19, 1934.2 While this evidence involved a number of considerations, particularly the presentation of data in line with the pronouncements of the United States Supreme Court in Bluefield Water Works v. Public Service Commission3 and in Los Angeles Gas and Electric Corporation v. Railroad Commission of California,4 this article is limited to a consideration of the value of the service as reflected in the rates to be prescribed.

The Supreme Court on Value of the Service

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So far as the present writer is informed, the United States Supreme Court in 1896 mentioned for the first time the value of the service rendered by a company as an element to be taken into account in prescribing rates. Mr. Justice Harlan, speaking for the Court, in Covington and Lexington Turn Pike Road Company v. Sanford said:

"If a corporation cannot maintain such a highway and earn dividends for stockholders, it is a misfortune for it and them which the court does not require to be remedied by imposing unjust burdens upon the public. So that the right of the public to use the plaintiff's turn pike upon payment of such tolls as, in view of the nature of the value of the service rendered by the company, are reasonable, is an element in the general inquiry whether the rates established by law are unjust and unreasonable."

It is significant that this pronouncement of the United States Supreme Court was made in the year 1896, before the restoration of prosperity following upon the depression of 1893.

In a second case, arising in this same period, the Court renewed emphasis upon value of the service as a factor in rate-making. A law passed by the State of Nebraska in 1893 to regulate railroad rates came before the United States Supreme Court for adjudication. This law was enacted at a time when shippers in the State had suffered a serious curtailment in their income and when business was suffering the pangs of a major

Reported in Document No. 5994, decided April

 ^{16, 1934.} The decision of the Commission having been given under Document No. 5973 on July 10, 1934.

^{3 262} U. S. 679, 692 (1923).

^{4 289} U. S. 287 (1933).

^{5 164} U. S. 578 at 597 (1896).

depression. Mr. Justice Harlan, again speaking for the Court, said in Smyth v. Ames:

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"What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience." On the other hand, what the public is entitled to demand is that no more be exacted from it for the uses of the public highway than the services rendered by it are reasonably worth."

A third case decided by the United States Supreme Court, and embodying a consideration of value of the service was San Diego Land and Town Company v. National City.⁷ Here the Court refused to approve as fair rates based exclusively upon cost and a return to the company; at page 757 it said:

"The basis of calculation suggested by the appellant [historical cost] is, however, defective in not requiring the real value of the property and the fair value in themselves of the services rendered to be taken into consideration."

That the position of the United States Supreme Court was consistent is reflected by comments in Cotting v. Goddard.⁸ The Court declared unconstitutional and discriminatory an act of 1897 passed by Kansas to establish charges made by the stockyards. At page 97 the Court said:

"The question is always not, what does he make as the appropriate profits? But, what is the value of the services which he renders to the one seeking and receiving such services?"

After a lapse of 16 years, in *Darnell* v. *Edwards*, the United States Supreme Court again referred to the value of the service in passing upon rates which had been fixed by statute in the State of Mississippi. At page 570 the Court said:

"The circumstances that a road may have been unwisely built in a locality where there is not sufficient business to sustain it, may be taken into account. And the nature of the value of the service rendered by the company to the public are matters to be considered."

The most recent recognition by the United States Supreme Court of value of the service in public utility rate regulations, so far as the writer is informed, came in 1921 in Vandalia Railroad Company v. Schnull.¹⁰ In reversing a decision of the Indiana Supreme Court, the United States Supreme Court said at page 119:

"A railroad is a private property, and as such, a rate may be fixed for its use; but it is private property devoted to a public service, and as such it is subject to the power of the state to see and require that the rate fixed be just and reasonable—one that, while it will yield a revenue to the railroad, will be proportioned to that which should be charged to the public."

A review of the cases mentioned above, to say nothing of numerous decisions by state courts, would seem to support the contention that public utility commissions in prescribing rates must take into consideration not only the rate of return to be earned by the utility, but the value to the patron of the service rendered by such utility. Now we are in the midst of a major depression. This depression Chief Justice Hughes characterized as follows: "It is the outstanding contemporary fact dominating thought and action throughout the country" and represents "a new economic level."11 It is difficult to understand why so little emphasis has been given to the value of the service in recent rate litigation. It seems to the writer that judicial opinion is in support of the contention that, irrespective of

^{6 169} U. S. 464 at 547 (1898).

^{7 174} U. S. 739 (1899).

^{8 183} U. S. 79 (1901).

^{9 244} U. S. 564 (1917).

^{10 255} U. S. 113.

¹¹ Alchison, Topeka & Santa Fe Rwy. Co. v. United States, 284 U. S. 248 (1931).

the rate of return earned by a utility company, the value of the service rendered is the upper limit beyond which the rate schedule cannot be supported. In the light of this contention, attention is directed to the factual bases in the two cases of litigation examined below.

Implications of the Value of the Service

No doubt, what constitutes the value of service rendered by a public utility company is a matter on which there may well be difference of opinion.12 evidence presented below is built upon the assumption that if, during a period of major depression, a public utility corporation continues to collect from its patrons a sum of money approximately constant in spite of the decreased purchasing power of such customers, the utility is charging a price in excess of the value of the service rendered. This does not mean that during a depression a utility company should collect no larger portion of the consumers' dollar than in normal periods. In the very nature of the case, some margin of flexibility must be tolerated. What it does indicate is that there is a limit of "reasonableness" to which this enlarged portion may be allowed. A difference in degree, if only large enough, becomes substantively a difference in kind. At any rate, a doubling or a trebling of the portion of purchasing power which goes to the utility is a factor that should be taken into account by commissions in prescribing rates. There is no good reason why a utility, operating under the protection of a monopoly grant,

should be insulated completely from the impacts of a major depression.

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If the utility corporation during a period of greatly decreased purchasing power collects from its customers a sum of money which represents a greatly increased portion of their total purchasing power, the company is charging in excess of the value of the service. The conclusiveness of the evidence here presented depends upon the acceptance or non-acceptance of this generalization. Whether conclusive or not, this is certainly one factor to be considered by commissions in prescribing rates.¹³

The charge of a price in excess of the value of the service, assuming the validity of the above definition, has serious effects not only upon those who pay the price exacted, but upon the entire economic structure. First, it is obvious that an individual called upon to pay annually a given sum of money out of a decreased income must do one of two things. Either he must discontinue the service to which he has accustomed himself and thereby lower his standard of living, or else he must purchase less of other goods than he would ordinarily be able to buy. This again is, in substance, a lowering of his standard of living. But the impact is even more serious in another respect. To the extent that the public utility takes a larger portion of purchasing power, less remains to be spent for other services and goods. The vendors of these other services find their sales curtailed to such an extent as to jeopardize their own solvency. In short, the existence of these rigid prices in a changing economic order serves as a "log jam" to prevent the restoration of

¹² See in this connection an article by Mr. Henry C. Spurr on "The \$500 House Telephone" in *Public Utilities Fortnightly* for September 14, 1933; and a reply by C. O. Fisher on "That \$500 House Telephone" in *Ibid.*, November 9, 1933, pp. 586-588; see also Eleanor Heyman, "The Value of the Service: Its Various Meanings and Uses," 9 Journal of Land & Public Utility Economics 252-265 (August, 1933).

¹³ Other criteria of the value of the service could, of course, be applied. The standard used here is only one out of several—including reduced consumption in an effort to reduce bills, decrease in number of customers, and a comparison of rates for similar service in other communities—which could be used.

prosperity which might otherwise come about. In addition to the public utility customer, therefore, the butcher, the baker, and the candlestick maker feel the ill effects of a public utility charge in excess of the value of its service.

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Facts Indicating the Value of the Service

An indication of the trend in purchasing power of the American people is given in a recent publication by the United States Department of Commerce. This report was prepared by the division of Economic Research of the Department of Commerce, in cooperation with the National Bureau of Economic Research. From the data published in the above report Table I has been compiled.

The computation in Table I shows that for the four-year period (1929-1932) the total of individual income in the United States decreased by 40%; the total of production income by 54%; labor income by 40%; and dividends paid out by 56.5%. The report indicates

Table I. Changes in National Income, 1929-32 (In Millions)

Year	Individ- ual Income	Produc- tion Income	Labor Income	Divi- dends Paid
1929	\$81,000	\$83,000	\$52,867	\$5,963
1930	75,400	70,500	48,688	5,795
1931	63,300	54,700	41,027	4,311
1932 Percentage	49,000	38,300	31,595	2,590
Decrease	40%	54%	40%	56.5%

further that, in those cases in which it was possible to segregate wages from salaries, wages over this four-year period decreased by 60%. Without going into statistical refinements, it seems clear from this table that the purchasing power of the American people as a

whole suffered a decrease of approximately 50% in this four-year period. Independent investigations indicate that this situation was not radically different in 1933 from what it was in 1932.

a. Portland Water Company. To get a picture of the portion of its patrons' purchasing power which comes to the Portland Water Company annually, it is necessary to examine the operating revenues of this Company over a number of years. Table II gives the dollar receipts for the Company each year from 1927-1933.

TABLE II. OPERATING REVENUES, PORTLAND WATER COMPANY*

Year	Amount
1927	\$25,726
1928	26,112
1929	28,510
1930	27,015
1931	27,015 26,965
1932	27,046
1933	25,715

* Annual Reports, to the Connecticut Public Utilities Commission.

These receipts show a remarkable degree of stability. In 1927 the Company collected from its customers \$25,726. In no year thereafter did it collect so small a sum of money until 1933 when its operating revenues aggregated \$25,715, or approximately the same amount that was collected in 1927. Even in 1928 the operating revenues amounted to only \$28,510. If the consumer income from which these revenues were derived decreased drastically over a period of years, it follows that the Portland Water Company was receiving an increasingly large portion of the consumers' purchasing power.

Perhaps the best available index of the volume of purchasing power for a community is found in the movement of bank debits to individual accounts. Such data are available for the Boston Federal Reserve District, the District

¹⁴ National Income, 1929-1932, 73d Congress, 2d Session, Senate Document No. 124.

in which the Town of Portland is located. No such information is published for the Town of Portland itself, which has only one commercial bank. A study of the debits to individual accounts for the Boston District, however, shows a trend for the years 1931-1933 comparable with that in general deposits for the one banking institution in the Town of Portland. Table III indicates that the total of bank debits to individual accounts in the Boston Federal Reserve District decreased by 29.8% from 1931-1933, whereas the general deposits in the Portland Trust Company during the same period decreased by 39.8%.

Table III. Decreased Purchasing Power in Port-LAND, 1930-1933*

Year	Debits to Individual Accounts in Millions Boston District (October of each year)	
1928 1929 1930 1931 1932	\$3,045 3,847 2,767 2,344 1,643 1,546	\$319,302.96 241,213.11 192,100.16
Percentage Change 1928–1933 1931–1933	-49.0% -29.8%	-39.8+%

^{*} Data) for the Boston Federal Reserve District are taken from the Federal Reserve Bulletin. The general deposits of the Portland Trust Company are taken from its statements published at the end of each year.

While general deposits in the Portland Trust Company over a three-year period decreased by approximately 40%, this is an underestimate of the trend of the volume of purchasing power in the community. It is well known that in a period of severe depression bank deposits move sluggishly, thereby failing to indicate the entire degree of deflation in purchasing power.

Additional evidence of deflation in purchasing power in Portland is given in Table IV which shows the amount of

Table IV. Decreased Purchasing Power in Port-LAND, 1930-1933

Year	Property Taxes Unpaid at End of Fiscal Year	Paid to Outside Poor for Fiscal Year		
1928	\$ 9,885.74	\$ 5,567.17		
1929	12,532.37	6,079.79		
1930	17,314.98	6,280.50		
1931	15,106.20	10,807.08		
1932	17,394.66	16,213.18		
1933	29,128.57	22,695.81		
Percentage				
Change				
1928-1933	+194.65%	+307.67%		
1931-1933	+ 92.80%	+109.90%		

unpaid property taxes at the end of each fiscal year and the amount paid by the Town of Portland for outside poor for each fiscal year from 1928 through 1933. The increase in the amount of unpaid property taxes from year to year reflects the difficulty with which people met their tax obligations at a time when their incomes had suffered serious deflation. Likewise, the increase in the amount of money paid by the Town for outside poor is indicative of the decreased income on the part of the recipients of Town aid, to say nothing of the increased burden falling upon the taxpayers.

The Town of Portland is primarily a residential and agricultural community. However, three important industrial plants are located in the Town. Table V indicates for the years 1931–1933 the average number of men employed in

Table V. Decreased Employment in Portland, 1930-1933

	Chatham, Pickering, Rogers & Hubbard					
Year	Average Number Employed	Average Man- Hours Worked				
1931	170	27,287				
1932		19,878				
1933		19,041				
Percentage						
Change						
1931-1933	-25.88%	-30.2%				

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Not only was there a decrease of something more than 25% in the number of people employed during this three-year period, as well as a decrease of slightly more than 30% in the number of manhours worked, but wage rates decreased at the same time. Table V, therefore, does not give a complete picture of the decrease in consumer purchasing power in the Town of Portland for the period in question.

If there is any validity in the principle that a public utility is charging in excess of the value of the service rendered by it when over a period of years, with no substantial change in the quantity or quality of services given, it attracts to itself an increasing portion of the consumers' purchasing power, it seems conclusive that in 1933 the Portland Water Company was charging for its service a price in excess of the value to consumers. If the Company received only its fair share in 1931, namely \$26,965, it is apparent that in 1933 the collection of \$25,715 meant a relatively

heavier burden upon its consumers. b. The Ansonia Water Company. The operating revenues of the Ansonia Water Company over a period of years are given in Table VI.

This table shows that the Ansonia Water Company collected in 1933 from

TABLE VI. OPERATING REVENUES, ANSONIA WATER Co., 1929-1933*

Year	Operating Revenue
1929	\$117,749.15
1930	112,470.66
1931	104,883.84
1932	98,473.68
Percentage Decrease	98,783.42
1929-1933	16.1%
1931-1933	6.1%

^{*}Figures taken from Supplement C, Exhibit 4 of Ansonia Water Company in Document No. 5973.

its customers in the Town of Ansonia 84% as much as in the boom year 1929 and 94% as much as in 1931, a collection in striking contrast with that experienced by business in general. This collection necessarily became a relatively greater burden to the users of water as their incomes decreased.

An indication of the change in purchasing power in the City of Ansonia is given by the figures in Table VII.

TABLE VII. DECREASED PURCHASING POWER IN AN-SONIA, 1928-1933

Year	Debits to Individ- ual Accounts in Millions Boston District* (October each year)	Demand Deposits End of Year Ansonia National Bank†
1928		\$1,363,144.85
1929	3,847	2,034,679.60
1930	2,767	1,286,085.36
1931	2,344	1,304,354.63
1932	1,643	1,035,686.64
1933	1,546	937,427.05
Percentage Decrease		
1931-1933	29.8%	28.1%

* Data for the Boston Federal Reserve District are taken from the Federal Reserve Bulletin. † Figures showing demand deposits for the Ansonia National Bank are those published in its final report for each calendar year indicated.

If debits to individual accounts constitute a good index of a change in consumer purchasing power, it follows that a similar trend in demand deposits at the end of each year would give an approximate measure of changes in this purchasing power. Table VII indicates that during the depression period (1931-1933) debits to individual accounts for the Boston Federal Reserve District showed a decrease of 29.8%. During the same period the demand deposits in the Ansonia National Bank, the only commercial bank in the City of Ansonia, showed a decrease of 28.1%. In other words, the deflation of demand deposits in Ansonia was in line with the deflation in bank debits to individual accounts for the Boston Federal Reserve District.

Here again attention is called to the fact that bank debits and bank deposits underestimate the decrease in purchasing power by virtue of their sluggish movement in a depression period.

Further evidence of the ability of people in Ansonia to pay for water is presented in Table VIII.

TABLE VIII. DECREASED PURCHASING POWER IN CITY OF ANSONIA, 1928-1933

Year	Unpaid Property Taxes End of Fiscal Year	Net Cost of Board of Public Charities		
1928	\$ 5,373.16	\$ 48,429.90		
1929	2,554.87	49,222.62		
1930	12,095.02	55,319.10		
1931	16,842.62	80,986.64		
1932	56,863.31	107, 196.64		
1933	18,585.36 (58,585.36)*	164,070.30		
Percentage Increase	(3-73-3-5-7			
1928-1933	990.3%	238.7%		

^{*\$20,000} was paid by the Charity Dept. for rents which went to pay taxes; \$20,000 was paid by the banks on property foreclosed.

In interpreting Table VIII the unpaid property taxes at the end of the fiscal year 1933 amounted to \$18,585.36. This figure, however, is not comparable to those indicated for earlier years. In 1933, for the first time, the funds paid out by the Charities Department were used in the amount of \$20,000 to pay overdue taxes. Also, according to the tax collector in Ansonia, banks paid \$20,000 taxes on property foreclosed during the year. The 1933 figure which is comparable to those given for earlier years, therefore, is \$58,585.36.

Unpaid property taxes at the end of the fiscal year 1933, with the interpretation indicated above, had increased from 1928 by 990.3%. Likewise, the net cost of the Board of Public Charities showed an increase for this period of 238.7%. Both these changes give eloquent testimony to the degree to which the purchasing power of patrons of the Ansonia Water Company had decreased over a

period of years.

In addition to the data presented in the above tables, investigations made in the City of Ansonia indicate that man-hours employed in Ansonia industry decreased by more than 50% from 1929 to 1932. The deflation in consumer purchasing power was even more serious because of a decrease in wage rates along with a decrease in the number of of hours worked.

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Information given in these various tables points to the conclusion that the customers of the Ansonia Water Company have suffered a decrease in their purchasing power similar to that which has come to individuals for the country as a whole. It seems a reasonable presumption that the total purchasing power available to residents of Ansonia in the year 1933 did not exceed 50% of what was available to them in a predepression year. If it be agreed that a public utility, when it collects an increasing portion of the consumers' purchasing power during a depression period, is exacting a charge in excess of the value of the service rendered, the inevitable conclusion follows that the Ansonia Water Company has been charging a price in excess of the value of the service it renders. This is shown in the collection of \$117,000 in 1929 in contrast with the collection of \$98,000 in 1933, the collection in 1933 having come at a time when total purchasing power available to the consumers did not exceed half that of the year 1929.

The Decisions of the Public Utilities Commission of Connecticut

On April 16, 1934 the Public Utilities Commission announced its decision in the Portland Water Company case.15 In two pages of this decision the Commission discusses the rate of return allowed the Portland Water Company.

¹⁵ Document No. 5994.

The Commission announced that under prevailing conditions the Company should have a return of 61/2% on the fair value of its property. This return would involve, the Commission said, operating revenues of \$25,670 annually and the Company collected under the prevailing rates \$25,717 in 1933. Therefore, the rate schedule was left where it was before the litigation. No mention at all is made of the value of the service as a factor to be taken into account in arriving at this rate of return. Apparently the members of the Connecticut Commission do not feel that the Supreme Court has given a clear expression to the effect that the value of the service performed by a utility marks the upper limit of the amount of money which can be taken from the consumers. Or, if they recognize the mandate of the United States Supreme Court, at any rate they do not believe that the collection of a rapidly increasing portion of the purchasing power available in the community is any index of a charge in excess of the value of the service.

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The above generalization is confirmed by an examination of the decision of the Commission in the Ansonia case. 16 As to the value of the service the Commission says:

"This raises the question—what is the reasonable value of the water service without which a community could not exist? Clearly the value of the service is the cost to the Company, honestly and economically man-

aged, of maintaining properly its plant and equipment, its operating expenses and overhead charges, and a fair return on the fair value of the property necessarily used in the rendition of such public service.

"The cost of water to the average domestic consumer is about 5 or 6 cents a day, for the entire household, or about equal to the price of one small luxury per day. It is not conceivable that a necessary increase per customer of one or even two cents a day, in order that the Company may properly maintain its service, would create an unbearable burden upon the community.

Two important questions may be raised in this connection: Does the proper maintenance of the service of the Company require a return of 61/2% on the value of its property at a time when capital in general is earning nothing or next to nothing, when rates of interest on borrowed funds have approached the vanishing point, and when owners of capital are anxious to commit their funds at very moderate rates of return if only they can be assured of the safety of their principal—witness the current rates for United States Government bonds? The next question is whether the Commission is on solid ground in its assertion that an increase of \$3.65 to \$7.30 a year in the water bill to the average consumer is a matter of indifference when employment has sunk to less than 50% of normal and when wage rates have been decreased simultaneously. The unemployed workingman may reach a different conclusion. It is always the last straw that breaks the camel's back.

¹⁶ Document No. 5973, pp. 20-22, July 10, 1934.

III. The Local Transportation Problem in the District of Columbia

By CHARLES F. MARSH

HE first instalment of this study portrayed the background of the local transportation problem in the District of Columbia. The second dealt with such attempted solutions of that problem as changes in the general level of rates, modifications of rate structures, improvements in service, and control of taxicabs.105 The bulk of this third and concluding instalment relates to the unification of the various operating companies. Incidental attention is given to the possibilities of government ownership of transit facilities in Wash-

ington.

The unification, or the merger question, as it has been commonly called in the District, is deserving of detailed consideration for several reasons. In the first place, it has generally been looked upon as the most important means of remedying Washington's transportation troubles. Second, the effective application of most of the other solutions presupposes a unified system. Finally, the extended controversy waged over the terms of the various merger proposals of the past 10 years or so in the halls of Congress, in the press, and in various civic associations has embraced almost the entire field of public utility eco-

nomics and regulation. History of Merger Proposals

Although the idea of merging the transit companies is virtually as old as the companies themselves, it did not take definite form until March 4, 1925, when Congress passed an act to permit the merger of street railway corporations operating in the District of Columbia. 106 The act empowered the traction companies to

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"merge or consolidate, either by purchase or lease by one company of the properties and/or stocks or securities of any of the others, or by the formation of a new corporation to acquire the properties and or stocks or securities and to succeed to the powers and obligations of each or any of said companies."

It provided, however, that no such unification should occur without the prior approval by majority vote of the stockholders of each corporation, by the Public Utilities Commission of the District and by a Congressional Joint Resolution of the terms and conditions of unification.

Formal unification proposals were made, pursuant to the above act, on four separate occasions before all parties approved the agreement by which the Washington Railway & Electric Company and the Capital Traction Company united December 1, 1933, to form the Capital Transit Company. The first attempt, initiated by the companies, met with the approval of the Commission, after some modifications, but failed of action in Congress within the specified time.107 The second attempt was initiated by the Commission but Congress adjourned before taking action.108 The

^{106 10} Journal of Land & Public Utility Economics 275-290 (August, 1934) and 403-422 (November, 1934). Footnotes are numbered consecutively with those in the first two instalments.

^{106 43} U. S. Stats. 126.

^{107 16}th Annual Report, Public Utilities Commission,

^{1928,} p. 4; 17th Annual Report, 1929, p. 8; and Report on Proposed Merger of Street Railways in the District of Columbia, Senate Doc. 184, 70th Cong., 2d Session, pp. 1-13, 155.

^{108 18}th Annual Report, 1930, p. 4; Comparative Print, S. J. Res. 208, 70th Cong., 2d Session and S. J. Res. 105, 71st Cong., 2d Session, and Hearings on H. J. Res. 159, 71st Cong., 2d Session.

third attempt came nearer to success. Again the Commission took the initiative. Its proposal was finally passed by the House, but the Senate failed to vote on it. 109

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The fourth attempt to secure a merger agreement was successful largely because of the entrance of a new party into the controversy. This was the Citizens Joint Transportation Committee, formed in December, 1932, according to Mr. Thomas P. Littlepage, President of the Washington Chamber of Commerce and the leading spirit in the Committee, because "the people got tired of the delay and the mess was getting worse every day."110 This Committee brought together informally the various Senators, transit officials, Commission members, and other individuals whose disagreement over the terms of unification had caused previous proposals to go on the rocks and finally forged a compromise plan to which all parties gave their approval. This cleared the way to passage by Congress and approval by the President of the Joint Resolution embodying the new agreement January 14, 1933. A joint committee of directors of the Capital and Washington Companies drew up a detailed agreement as to capital structure of the new corporation, allocation of stock to constituent companies, and similar matters. The stockholders accepted the plan September 26, 1933, the Utilities Commission giving its final approval two days later. On this same date, incorporation papers were filed for the new Capital Transit Company, which took over the merged properties on December 1, 1933, and began operations.111

Terms of the Merger Agreement

As finally approved by the Public Utilities Commission, the unification agreement was made up of two parts. The first comprised the 19 basic provisions included in the Joint Resolution. The second part contained the seven detailed points which the Resolution had left to be determined by the contracting parties, subject to approval of the Public Utilities Commission. The Resolution also consisted of two sections, the first being the agreement proper and the second, the enacting or legislative section of the Resolution.112

Certain matters treated in the various merger proposals are of sufficient public importance to merit consideration. They can be discussed under the following heads: (1) corporate organization; (2) capital structure and exchange of securities; (3) accounting methods; (4) valuation and the general rate level; (5) rate structures; (6) purchase of power; (7) costs of paving and of crossing policemen; (8) future competition; and (9) relations with regulatory authorities.

Corporate Organization. Common to all proposals has been the provision for incorporation of the new Capital Transit Company to take over all Capital Traction properties and the transportation properties of the Washington Railway & Electric Company. The Traction Company was to be dissolved as soon as

^{100 19}th Annual Report, 1931, p. 4; 20th Annual Report, 1932, p. 2; Report of House District Committee to accompany H. J. Res. 154 (No. 1030), 72nd Cong., 1st Session; Report of Senate District Committee to accompany H. J. Res. 154 (No. 691); S. J. Res. 13, 72nd Cong., 1st Session; Minority Report on S. J. Res. 13; and Evening Star, April 8, May 8, June 13, 15, July 14, 15, 1932.

¹¹⁰ Personal letter to writer dated December 14, 1932.

¹¹¹ Definitive Unification Agreement, approved by the

Public Utilities Commission, September 28, 1933; see also Evening Star, December 22, 1932, and January 9, 15, February 1, May 21, September 26, 28, and December 1, 1933.

¹¹² For the most part, this latter section merely enacted the various provisions of the agreement into law or made such additional statements as were necessary to put the basic 19 provisions into effect. It did, however, include certain clauses which were in the nature of amendments to the merger agreement itself.

practicable, but the Railway Company was specifically authorized to retain its corporate identity and its stock holdings in the Potomac Electric Power Company and other subsidiaries.¹¹³

Controversies developed over two questions of corporate organization: (1) the status of the Washington Rapid Transit Company in the unified system, and (2) the extent to which the new company might use subsidiaries in acquiring and operating transit properties.

The utility interests had originally urged that the new company should obligate itself to the extent of approximately \$1,200,000 to assume the liabilities of the Rapid Transit Company and to purchase its stock at a price high enough to cover the original purchase price paid by the North American Company. Since the bulk of the bus company's liabilities were in the form of notes payable to the North American Company, this would have resulted in shifting to the new company the losses incurred by the latter through its investment in the stock of the unprofitable Rapid Transit Company. Opposition on the part of various public representatives to this attempt by the North American interests to "get out from under" led to the introduction of a substitute provision calling for (1) acquisition by the Capital Transit Company of the bus company's stock "at the fair value thereof and on such terms as may be accepted by the owners of said shares of stock and may be approved by

the Public Utilities Commission", and (2) for its merger with the new company if and when a majority of the stock should be acquired and the Commission should approve such merger. This provision was a part of the accepted unification agreement.¹¹⁴

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A recent petition by the Capital Transit Company, in accordance with the above provision, to purchase the bus company's stock for \$843,000 was denied by the Commission. While the regulatory body recognized that the Rapid Transit's 1934 operations had been much more successful than those of previous years and also that its properties would be more valuable as part of the unified system than as isolated bus lines, it held, nevertheless, that \$843,000 was excessive and fastened too great a burden on patrons of the Capital Transit Company. The matter has been ap-That ultimate pealed to the courts. absorption of the Rapid Transit Company is in the public interest is obvious, as a completely unified transit system cannot be had without it. The exact price at which it is to be acquired is a matter of opinion. It has been pared down now approximately \$300,000 from the original price suggested in 1928. Possibly, \$843,000 is still too high, although it was arrived at only after consultation with an outside expert, Prof. A. S. Richey of Worcester Polytechnic Institute.115 Controversy over the exact price, however, should not be permitted to delay unduly absorption of the bus

¹¹³ Of the 15 directors of the Capital Transit Company, 7 were to be nominated by each of the old companies and the one other was to be chosen jointly. See Definitive Unification Agreement, pp. 5-10 and first instalment of this article, op. cit., pp. 275-282.

¹¹⁴ Definitive Unification Agreement, p. 10. See also Comparative Print, op. cit., p. 19; Hearings on S. J. Res. 105, op. cit., p. 5; Memorandum of Chief Accountant Bachman to the Public Utilities Commission, November 23, 1927, p. 5; and Evening Star, September 10, 15, 1934.

¹³⁶ This \$843,000 figure is the sum of \$516,000, the price to be paid to the North American interests, or more specifically Mr. H. P. Wilson, for 21,237 shares of the total of 21,612 shares outstanding, and \$327,000, the amount of the Rapid Transit Company's notes payable held by the North American Company. The bus company, unable to earn enough to cover its operating expenses, borrowed continuously from the North American Company to meet those expenses. See Evening Star, September 10-15, 1934; also first instalment of this article, op. cit., pp. 279-283.

lines into the Capital Transit System, as the public may lose more, through continued separate operation of the two systems with its wasteful duplication of service and lack of transfer arrangements, than they may gain through eventual acquisition of the properties at a lower price.

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Lack of agreement on a provision empowering the new company to do business through subsidiary corporations was one of the obstacles to the merger which was removed by the compromise plan worked out by the Citizens Committee. Senators Blaine and Capper had opposed use of subsidiaries on the ground that it was inconsistent with one of the avowed purposes of the whole unification plan-namely, to eliminate separate corporate entities with their accompanying overheads. The transit officials minimized the total amount of such overhead costs. They insisted, also, that subsidiaries might prove indispensable in raising new capital and in carrying on business in the adjacent states of Maryland and Virginia. The compromise permitted the Transit Company to use subsidiaries in these adjacent states but not in the District.116

The whole question of the use of subsidiary corporations is of far less practical significance than the controversy over it seemed to imply. A more flexible provision, however, declaring against use of subsidiary corporations in the District, except as the Utilities Commission might deem them to be necessary, would have guarded against an un-

economic, complex corporate structure and at the same time would have avoided possible embarrassment to the Transit Company and its patrons because of inability to operate through other corporate entities.

Capital Structure and Exchange of Securities. In contrast to the detailed provisions of the original merger proposal submitted by the utility interests in 1928,117 the later plans left the exact amount of the Capital Transit Company's capitalization, the distribution of its stock between the constituent companies, and similar matters to be determined by the two old companies, subject to Commission approval. Congress required only that the total initial capitalization should not exceed the total amount of stocks, bonds, and other certificates of indebtedness of the underlying corporations. 118

As finally agreed upon by the companies and approved by the Commission, the unification plan provided that the Capital Transit Company (1) issue 240,000 shares of common stock of \$100 par value, (2) take over all the Capital Traction Company's bonded debt of \$5,536,000, and (3) assume \$8,607,000 or approximately 60% of the total funded debt of the Washington Railway & Electric Company. 119 This gave it an initial capitalization of \$38,143,000. In return for the transportation and other properties vested in the new Transit Company, 120,000 shares of common stock were to be issued to each of the constituent companies. The shares al-

¹¹⁶ Definitive Unification Agreement, p. 5; see also Minority Report on S. J. Res. 13, op. cit., pp. 1-2 and Evening Star, December 22, 1932.

¹¹⁷ This proposal authorized the assumption of all outstanding bonds of the Traction Co., amounting to \$5,600,000, and \$12,308,000 or about 73% of the Washington Co.'s bonds. It authorized 300,000 shares of cumulative, participating, voting preferred stock, 120,000 shares of which were to be issued initially and assigned to the Traction Co., and 300,000 shares of

common stock, approximately 200,000 shares of which were to be issued initially and assigned to the Washington Co. See Comparative Print, op. cit., pp. 7-20.

¹¹⁸ Definitive Unification Agreement, p. 6.
119 This consisted of \$2,906,000 Anacostia & Potomac 5s, 1949; \$1,703,000 City & Suburban 5s, 1948; and \$4,000,000 of the approximately \$10,000,000 issue of Washington Railway & Electric Consolidated Mortgage 4s, 1951. See ibid., pp. 6-10, 14, 15, and Comparative Print, pp. 7-20.

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lotted to the Traction Company were to be distributed to its stockholders, since it was to be dissolved. Those assigned to the Washington Company, on the other hand, were to be carried on its books as a \$12,000,000 investment to replace the transit properties transferred to the new company. Since the Traction Company had \$12,000,000 of its common stock outstanding at the time of the merger, this represented merely a sharefor-share exchange by its stockholders. The Washington Railway & Electric stockholders merely retained their \$15,-000,000 of stock-\$8,500,000 of voting preferred and \$6,500,000 of common. They were not involved in any exchange of stock certificates, since their corporation was not dissolved but was merely transformed from a parent company operating transit properties and holding stock of the Power Company¹²⁰ into a holding company owning Capital Transit and Potomac Electric Power common stocks.

Although the details of the financial structure of the new company primarily concern the investors, the patrons have an interest in the total capitalization and the relative proportion of bonds and stocks, since they affect the corporation's credit and ability to attract sufficient capital to the industry for adequate service.

There are three criteria by which the size of the total capitalization may be judged: (1) cost of assets, (2) value of assets, and (3) earning power. Although cost of assets is the technically correct basis of capitalization for a public utility

corporation, it is not a very practicable criterion in this case. Although Dr. Maltbie, who made a study of the merger question in 1928 for a Senate subcommittee, estimated that the actual cost of the Capital and Washington Companies' properties as of January 1, 1928 was \$32,000,000, he emphasized that this was only a very rough estimate. 121

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Judged by the value of the assets, as recorded on the balance sheets shown in Table VII, the initial capitalization of \$38,143,000 appears to be conservative enough. The transit properties appear to have a depreciated book value of approximately \$41,000,000, the liabilities to outsiders seem to be small and, after making liberal provision for contingencies, etc., a surplus of over \$2,-000,000 is indicated. The difficulty with this criterion is that the values assigned to the various asset items and the amounts at which the various liabilities are carried are not necessarily correct but represent, in many cases, arbitrary figures which have been decided upon by the officers and directors of the various underlying corporations in past years.

The only practicable basis for determining whether or not a corporation is overcapitalized is its ability to earn a sufficient amount to cover interest charges and pay sufficiently high dividends to attract capital. While it is true that use of this basis is subject to question in the case of utility corporations, since their earnings are determined to some extent by regulatory authorities, 122 market factors are major ele-

¹²⁰ See 21st Annual Report, Public Utilities Commission, 1933, for a description by the Commission's Accounting Bureau of "Transactions incident to the consolidation and/or merger of the Transit Properties." (Report in hands of printer at time of writing.)

¹²¹ Dr. Maltbie pointed out that the accounting treatment of the many small mergers which characterized the gradual building up of the two major systems during the past 75 years or so and the lack of harmony in recent

years between the two companies' treatments of additions, retirements, etc., made it almost impossible to arrive at accurate cost figures. See Report on Proposed Merger, etc., op. cit., pp. 124-130.

¹²² See Jones and Bigham, op. cit., pp. 497-499 and Gerstenberg, C. W., Financial Organization and Management (New York: Prentice-Hall, 1932), pp. 306-308.

ments in determining utility earnings. This has been particularly true of street railway corporations since the competition of motor vehicles has become so

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and *Man*--308. prevalent. While transit earnings of the Capital and Washington Companies during the period immediately preceding the merger were insufficient to pay com-

Table VII. General Balance Sheet of the Capital Traction Company and Washington Railway & Electric Company (not including those assets and liabilities to be retained by the Washington Co. After December 1, 1933) as of November 30, 1933, and the Opening Entries on Books of the Capital Transit Company, as of December 1, 1933*

Assets	Capital Trac-	Wash. Ry. & Elec. Co.	Changes Incident to Merger†		Capital Tran-
	tion co.	Elec. Co.	(+)	(-)	sit co.
Investments: Road and equipment		\$32,493,985 331,707 2,942	\$ 9,600		\$53,285,849 331,707 114,758
companiesOther investments	98,000 200,759	550,556 1,484,550	1,731,159		648,556 3,416,467
Total investments	\$21,192,839	\$34,863,740	\$ 1,740,759		\$57,797,337
Current Assets: Cash, etc Other current assets	684,923 179,931	530,646	90,868	\$ 64,000	777,791 646,577
	864,854	530,646	90,868	64,000	1,422,368
Deferred Assets: Depreciation fund: Cash Securities. Other deferred items	84,741 1,731,159 8,407	1,027		84,741 1,731,159 150	9,285
	1,824,307	1,027		1,816,050	9,285
Unadjusted Debits	105,653	299,954	48,423		454,030
Grand Total	\$23,987,652	\$35,695,368	\$ 1,880,050	\$ 1,880,050	\$59,683,020
Liabilities					
Capital stock	\$12,000,000 5,536,000 183,055	\$12,000,000 8,607,000 67,878			\$24,000,000 14,143,000 250,933
Accrued depreciation		6,971,319	235,552 6,500,000		12,260,585 235,552 6,500,000
Other unadjusted credits	147,480	27,273			174,753
Total unadjusted credits	\$5,436,746 831,851	\$6,998,592 8,021,898	6,735,552	\$ 6,735,552	\$19,170,890 2,118,197
Grand Total	\$23,987,652	\$35,695,368	\$ 6,735,552	\$ 6,735,552	\$59,683,020

^{* 21}st Annual Report, Public Utilities Commission, 1933.
† The major changes incident to the merger were (1) transfer of the cash and securities in the depreciation fund maintained by the Capital Traction Co. to the free cash and investment accounts of the Capital Transit Co., and (2) the setting up out of the surplus transferred by the old companies a reserve for claims for injuries and damages against the old companies on account of operation prior to December 1, 1933, and a reserve for contingencies. The other changes indicated in columns 3 and 4 involve accounting details which are not directly pertinent to this study.

mon dividends, 123 an analysis by a Washington investment banker, Mr. Y. E. Booker, shortly before unification occurred, concluded that economies resulting from the merger would probably be sufficient to result in earnings of \$1.50 to \$2.00 per share on the new company's common stock, even if no more passengers were carried than during the early part of 1933.124 Developments during the first year of unified operation, as will be shown later, have more than borne out Mr. Booker's prediction, as \$4.19 was earned on each share of stock and interest charges were earned approximately 2 3/4 times. Market activity in the Company's bonds and stocks has been sufficient to justify the belief that investors for the first time in several years view District transit securities favorably. It is thus apparent that, on the basis of the first year's earnings, the Capital Transit Company's total capitalization does not appear to be excessive. 125

The capital structure of the Transit Company is relatively simple. Of the total capitalization of \$38,143,000, approximately 63% is common stock and the remaining 37% is bonds (Table This compares favorably with VIII). the capitalization suggested in the original 1928 proposal, and also with the combined capital structure of the two old companies. The relatively small proportion of bonds in the present structure is advantageous from the public as well as the corporate point of view. It lessens the possibility of serious financial embarrassment and resulting inability to secure additional capital in times of stress. The soundness of the corporation's capital structure is further evidenced by the fact that no outstanding bond issue bears interest in excess of 5\% or matures before 1947, thus lessening current fixed charges and freeing it from the necessity of refinancing until it has

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merger, however. The whole question of the financial results of the merger is discussed under that head later. A second Booker analysis made at the end of the first 11 months of the merger should be compared with the 1933 study. See ibid., November 23, 25, 29, and December 28, 29, 30, 1934.

TABLE VIII. COMPARISON OF CAPITAL STRUCTURE OF CAPITAL TRANSIT COMPANY WITH THAT SUGGESTED IN 1928 MERGER PLAN AND WITH THE COMBINED CAPITALIZATION OF CAPITAL TRACTION AND WASHINGTON RAILWAY AND ELECTRIC CO. (000's Omitted)

Item	Capital Transit Co. as of December 1, 1933*		Capital Transit Co. under 1928 Plan†		Capital Traction and W. R. & E. Co. as of November 30, 1933‡	
	Amount	Percent	Amount	Percent	Amount	Percent
Bonds	\$14,143	37.1%	\$17,908	35.9%	\$20,191	42.8%
Preferred Stock			12,000	24.0	8,500	18.0
Common Stock	24,000	62.9	20,000	40.1	18,500	39.2
Total	\$38,143	100.0%	\$49,908	100.0%	\$47,191	100.0%

ee Table VII, supra.

¹²³ See first instalment of this article, op. cit., pp. 279-284.

¹²⁴ See Evening Star, September 26, 1933.

¹²⁵ This was attributable to the increased number of passengers rather than to economies incident to the

[&]quot;See lane v11, supra.

† See note 117, supra.

† While the combined capitalization of the old companies is not directly comparable with that of the Transit Co. in that the former included securities of the Washington Co. which were backed by its holdings in the Potomac Electric Power Co. stock, from which a large dividend income has been received, and the latter does not, the Transit Co. has, nevertheless, been relieved of interest charges upon \$6,000,000 of Washington Ry. & Electric 4s and 0 5% cumulative dividends upon \$8,000,000 of preferred stock, all of which were formerly chargeable to railway operations. See the Booker analysis in Evening Star, September 26, 1933.

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Accounting Methods. The unification agreement specifically provided for continuity of accounting between the books of the two old companies and the Capital Transit Company, with two exceptions. One of these changes was that a reserve should be set aside out of the total net current assets received by the Transit Company to liquidate claims for injuries and damages against the old companies which were pending at the time of the merger. The second exception freed the new corporation from the necessity of maintaining a depreciation fund if it set up a reserve for depreciation at rates fixed by the Public Utilities Commission. 126 The first of these modifications in the accounting procedure of the old companies, while inserted at the suggestion of Dr. Maltbie as a means of safeguarding public interests,127 was of merely transitory importance and aroused no serious objection from the utilities.

The depreciation provision, however, requires some explanation. The two old companies had not handled depreciation in the same manner. The Capital Company had used the "sinking-fund" method and had built up not only a reserve for accrued depreciation but, as the balance sheet shown in Table VII indicates, had maintained a depreciation fund consisting of cash and securities. The Washington Company, on the other hand, had built up its depreciation

reserve by the "straight-line" method and had not segregated any of its assets into a depreciation fund. The net effect, consequently, of the above provision was to transfer the \$1,731,000 of cash and securities, chiefly United States Government bonds, in the Capital Traction Company's depreciation fund to the free cash and investment accounts of the new company. This materially improved the current position of the latter, not only by "unlocking" a large amount of cash and securities but also by causing the Washington Company to increase its contribution of net current assets. At the same time, it tended to bring the conflicting depreciation methods of the old companies into harmony. But the advisability of this step is questionable. Maintenance of a specific group of liquid assets for the sole purpose of financing the acquisition of replacements is in harmony with sound, con-This is especially servative practice. true for such a company as the Capital Transit Company, a large proportion of whose physical equipment is old, obsolete, and in need of replacement.128

The whole problem of the treatment of depreciation of transit properties in the District of Columbia has been in an unsettled condition for a number of years. The major factors responsible for this confused situation have been (1) the lack of agreement as to the proper methods of valuing these properties for rate-

obligations actually assumed by the new companies will be in excess of those appearing on the balance sheet . . . The old companies should be required to settle all claims . . . applicable to their operation, or an adequate fund should be created, not represented by stocks, bonds, or other obligations of the new company . . . to settle all claims." (Report on Proposed Merger, op. cit., pp. 114-115; also Comparative Print, op. cit., pp. 17-18.

128 See Dr. Maltbie's discussion of the advisability of retaining the Traction Company's depreciation funds on the books of the new company, Report on Proposed Merger, op. cit., pp. 138-140, 148-149; also the Bureau of Efficiency discussion, ibid., pp. 26-27, 60-86.

¹²⁶ Definitive Unification Agreement, pp. 10, 13.

pointed out that the Traction Company's statement of current assets and liabilities to be transferred to the new company included no damages reserve although both companies had carried such reserves in previous years. The implication is that the former, because of a provision in the agreement requiring the Washington Company to match the net current assets turned over to the Transit Company by the Traction Company, had eliminated its damage reserve as a means of increasing its net quick assets. Assuming that the Washington Company would follow suit, Dr. Maltbie warned: "The

making purposes and (2) uncertainty as to whether the depreciation methods used by the District transportation lines come under jurisdiction of the Interstate Commerce Commission or of the Public Utilities Commission of the District.¹²⁹ Unification of the companies presented the latter body with new depreciation problems. Pending thorough study of these vexing problems, the Utilities Commission approved tentatively a schedule providing that the ratio of depreciation charges to plant should vary inversely with the ratio of the depreciation reserve to the plant account. Application of this schedule reduced the annual charges from \$1,030,-000, which had been charged against the operations of the old companies, to approximately \$600,000. While this effected a nominal economy of over \$400,000, the Company itself petitioned the Commission late in 1934 to increase the annual charge to \$900,000 on the ground that \$600,000 was inadequate. 130 When the full effects of the program of modernization of equipment, rerouting, and similar attempts to improve service are felt, probably further increases in depreciation charges will have to be made. The whole subject requires careful study before permanent depreciation policies are adopted. On the other hand, this study must be made promptly in order that necessary replacements of property may not be delayed.

Valuation and the General Rate Level. The valuation and rate section of the unification agreement is significant not

so much for what it contains as for what it does not contain. Three controversial provisions which prevented agreement during earlier stages of the merger negotiations do not appear in the final draft. The first of these set up an initial ratebase for the Capital Transit Company of \$50,000,000 and proposed that this remain in effect for 10 years, subject to the usual changes because of additions, betterments, and retirements. 131 It appeared in the original 1928 proposal, but was eliminated from later agreements largely because of the clearly reasoned objections of Dr. Maltbie. He argued, wisely, that to leave the whole matter of valuation and fare regulation in the Commission's hands would protect the rights of all parties and that inclusion in the unification agreement of such a controversial subject as the exact amount of the rate-base was an unnecessary obstacle to acceptance of the agreement.132

Closely related to the above proposal was a provision in the original plan for "freezing" the existing rates of fare for a period of one year following the merger. While no serious objections were raised to this proposal, extension of the period to two years in the 1929 draft caused the utility leaders to declare that they would have nothing to do with a contract containing such a proposal. They opposed it on the ground that it would prevent them from securing the higher rate of fare which the Commission had recently denied them and which they hoped to put into effect as the result of their appeal to the courts. The July, 1930

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¹²⁹ Each of the Annual Reports of the Public Utilities Commission during the past 10 or more years has carried a statement to the effect that the Commission was holding in abeyance its decision regarding depreciation rates, pending adjudication of the valuation cases before the courts. For discussion of the conflict in jurisdiction, see first instalment of this article, p. 289.

¹³⁰ See Facts and Figures on Washington Securities (Washington: Y. E. Booker & Co., 1934), pp. 9-10; also Evening Star, November 29, 1934.

^{\$62,000,000} which the companies claimed was the cost of reproduction new of the properties, and \$39,000,000, the original cost of the properties as found by the Commission. See Report on Proposed Merger, op. cit., pp. 111-146, Comparative Print, op. cit., pp. 22-23, and second instalment of this article, op. cit., p. 404.

¹³² Report on Proposed Merger, op. cit., pp. 111-146.

¹³⁴ See nority R

decree of the Supreme Court of the District permitting higher rates to become effective automatically ended the controversy.¹³³

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The third point relating to valuation was Senator Blaine's proposal to amend the organic public utilities act so as specifically to direct the Commission to use the "prudent investment" method in determining the rate-base of all utility corporations in the District. 134 Significant though such a proposal may be as an attempt to write into the statute the well-known valuation theory of Mr. Justice Brandeis, the attempt to attach it to the merger resolution could have no result other than to prevent accord on the unification question. Approval by the stockholders of two utility companies of a document accepting prudent investment as a basis of valuation could scarcely have been expected. This proposal is a typical example of the frequent attempts made by both public and utility representatives to drag various questions into the merger negotiations which were related only indirectly to the merger itself.

As finally approved, the unification agreement provided simply (1) that existing rights with regard to valuations should not be prejudiced and should be enjoyed by the new company until a valuation of its properties should be completed, and (2) that acceptance by the Commission and by Congress of certain values for purposes of unification should not be taken as binding upon the Commission in any future determination of the fair value of the properties mentioned in the agreement. Such provisions are sound as they leave the

question of the determination of the new company's rate-base where it belongs namely, in the hands of the Public Utilities Commission.

Rate Structures. Two provisions relating to the Capital Transit Company's rate structures appear in the merger agreement. The first provides for free transfers between railway lines within the District and authorizes the Commission to determine the terms and conditions under which transfers may be granted between cars and busses and between bus lines. The second provision authorizes the Commission to fix school fares at three cents and makes inoperative the 1931 Act of Congress by which the Commission was authorized to set such fares at not more than three cents.136

The transfer clause was accepted by the representatives of the public only as a part of the compromise sponsored by the Citizens Committee in December, 1932. They had favored universal free transfers between busses and between busses and street-cars, as well as between street-cars.137 In the writer's opinion, it is unfortunate that the unification agreement did not authorize such universal transfers. While the Commission might use the authority given it to determine the conditions under which transfers involving busses might be issued to provide that all transfers be free, it has not done so during the first year of unified operation, and probably will not do so. When considered in the light of the history of this transfer clause as it was discussed throughout the merger negotiations, it appears as a definite instruction to the

¹³³ See Comparative Print, op. cit., p. 23; Hearing on S. J. Res. 105, op. cit., pp. 35-37 and 41-46; and second instalment of this article, op. cit., p. 404.

¹²⁴ See Comparative Print, op. cit., pp. 32-40 and Minority Report on S. J. Res. 13, p. 10.

¹³⁵ Definitive Unification Agreement, pp. 11-13.

¹³⁶ Ibid., pp. 12, 13.

¹³⁷ The proposal for free transfers did not relate to the small number of deluxe bus lines. See Minority Report on S. J. Res. 13, pp. 8-9, and *Evening Star*, December 22, 1932.

Commission not to grant free transfers except between street-cars. A question of principle is involved whether the bus-lines of the District of Columbia are to be treated as integrated parts of the District's transportation system or as isolated agencies. As has been pointed out previously, the writer believes that a truly unified transportation system cannot be developed unless bus-lines receive the same transfer treatment as street-car lines. 139

The school-fare clause merely writes into the unification agreement the threecent rate which has been in effect since 1931. This establishment of lower rates for school children as a permanent part of the rate structure, as the writer has previously stated, 140 is thoroughly desirable.

Purchase of Power. No phase of the merger problem has excited more controversy than the terms and conditions under which the new company was to purchase power from the Potomac Electric Power Company. 141 The basis of the controversy was the attempt by the traction interests to perpetuate the arrangement under which the Washington Company had purchased current from its subsidiary, the Potomac Company, at a price which was admittedly below cost. 142 Largely because of Dr. Maltbie's scholarly demonstration of the unsound-

ness of this arrangement, later merger proposals provided that only 63% of the power purchased by the Capital Transit Company was to be paid for in accordance with the existing contract between the Washington and Potomac Companies. The remaining 37% was to be paid for at rates to be determined by the Public Utilities Commission. 143 Even this compromise, however, was unsatisfactory to the public representatives. Their unremitting opposition to the whole idea of passing over to the new company the Washington Company's favorable power arrangement finally resulted in acceptance by the traction interests of a provision directing the latter to cause its subsidiary to enter into a contract with the Transit Company whereby it would furnish an adequate supply of power at such rates as the Commission might fix from time to time.144

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Such a provision is the only sound method of handling the power question. It is in harmony with modern ideas as to flexible, continuous regulation as contrasted with the more rigid franchise and contract regulation of rates and service. Moreover, it prevents perpetuation of the thoroughly unsound arrangement by which the Power Company sold current for use on the traction lines at less than cost. While the early advantages of the

139 See second instalment of this article, op. cit., pp. 412-413.

140 See ibid., p. 413.

141 While the Capital Traction Company had generated most of its own power, its costs were so much higher than those of the Power Company that it was generally agreed throughout the merger negotiations that most of the power would be purchased from the latter. See Report on Proposed Merger, op. cit., pp. 102–107.

142 According to the terms of the contract entered into by the Washington and Potomac Companies in 1906 and modified in 1917, power was to be furnished in sufficient quantities to meet all the former's operating requirements and for resale to other traction companies. The Railway Company was to pay its proportionate share of the operating costs of generation, exclusive of any demand charge. This meant that it paid nothing toward plant maintenance and depreciation, taxes, general expenses, and return. Maltbie estimated that the Washington Company, in 1927, paid less than 4 mills per kw. hr., while the bare cost of generation, exclusive of taxes, depreciation, return, etc., was 4.6 mills per kw. hr. If this company had paid the full cost of the power used during 1927, its operating expenses would have been at least \$300,000 greater. See Report on Proposed Merger, op. cit., pp. 101-107.

143 After 15 years, the Commission was to fix the rates on the 63% as well. See Comparative Print, op. cit.,

pp. 20-22.

144 See Minority Report on S. J. Res. 13, pp. 3-8 Definitive Unification Agreement, p. 11, and Evening Star, December 22, 1932.

¹³⁸ See, for example, Hearings on S. J. Res. 13, op. cit., pp. 28, 39, 75, 96, and 121.

contract to the Power Company may have offset to some extent the advantages to the Railway Company in recent years,145 the fact remains that the arrangement has been unfair to other patrons of the Power Company. Such discrimination is especially objectionable in view of the method by which electric rates are determined in the District and in view of the fact that the North American Company owns both companies. By selling below cost to the Railway Company, the Potomac Company has lost considerable revenue. Profits which rightly belonged to it went to the Washington Company and thus did not serve as a basis for lower rates to other consumers of electricity, as they normally would under the sliding-scale plan by which electric rates in the District are determined.146 Since no such slidingscale plan of automatically adjusting transit rates and revenues is in force, the North American has thus been money ahead and the public interest has suffered.

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There is, of course, some theoretical possibility of gain to traction patrons in that these lower power costs may have kept fares from being higher than they might otherwise have been. In view,

however, of the general upward tendency of fares in the District in recent years, it is apparent that most of the gains have gone to the Railway Company's stockholders, chief among which is the North American Company. This would have been true in only slightly less degree if the Capital Transit Company had inherited the favorable power contract, since the North American Company holds, indirectly, the majority of the Capital Transit stock,147 and since it had been originally intended that all the new company's power requirements would have been purchased at the low rate, not merely that portion of the total power which the Washington Company had formerly used.148

Cost of Paving and Crossing Policemen. Taxpayers of the District have a direct interest in the merger. One clause provided that the Transit Company should be relieved from paying salaries of crossing policemen and from part of the paving costs which the old companies had borne. Throughout the merger negotiations all parties have recognized the justice of transferring to the taxpayers of the District the costs of maintaining policemen at street railway crossings and intersections, since a large portion of their duties has been related to traffic

¹⁶⁶ Mr. W. F. Ham, for many years president of both companies, testified before the Senate Committee that the struggling Power Company would probably have been unable to sell its bonds had they not been guaranteed, in accordance with the contract, by the stronger Railway Company. He stated, further, that the former needed the power load of the traction company in order to operate successfully, as other day-time demands for power were small. See Hearings on S. J. Res. 13, op. cit., pp. 127-129.

Utilities Commission and the Power Company from the Supreme Court of the District of Columbia in 1924 as a means of terminating rate litigation, the following arrangement became effective: one-half of earnings in excess of 7½% upon an agreed valuation would be used to provide a cut in service rates; if return over a period of years was less than 7½%, rates were to be raised. (See 12th Annual Report, Public Utilities Commission, 1924, pp. 46-49.)

¹⁴⁷ The North American, indirectly, held enough of the stock of the Capital Traction Company to give it control of the new company.

¹⁴⁸ Under the terms of the contract now in force, the Potomac Company agrees to furnish adequate power to the Transit Company. The latter agrees to buy all power used from the former. Assuming a consumption of 60 to 90 million kw. hrs. per year, the rate is 5.933 mills per kw. hr. subject to change if coal prices should change. All power properties owned by the Transit Company are leased without compensation to the Power Company. In general, the terms of the contract appear to be fair to all parties, including patrons of both companies. The above price, it will be recalled, is about 2 mills higher than the Washington Company paid in 1927 and about half as large as the costs incurred by the Capital Traction Company in generating its own power in 1927.

other than railway traffic.¹⁴⁹ Sharp disagreement arose, however, as to the extent to which the Company should be

relieved of paving costs.

Prior to the merger, the trolley companies were legally bound to pay all expense involved in permanent improvements on public bridges used by the street-cars and in paving, repaving, and maintaining pavement between their tracks and two feet on either side of the The original 1928 unification plan relieved the Company from (1) all expense of paving on streets formerly not paved, (2) three-fourths of the cost of repaving and maintaining old pavement between the tracks and two feet on either side except when occasioned by track repairs, and (3) that portion of the expense of constructing, improving, and maintaining public bridges which is not attributable to the installation or existence of tracks thereon.150

Strenuous opposition by the Board of Commissioners, the general governing body of the District, to saddling taxpayers with these additional paving costs led to the Company being relieved from only one-half instead of three-fourths of the repaving and maintenance of paving between and adjacent to the tracks. Other provisions of the original agreement remained a part of the agreement

as it was finally approved.151

Relief from paving costs is in line with the current practices of states and cities throughout the country. There is no longer any justification for perpetuating the practice. Not only do paving charges no longer yield direct benefit to the

traction companies, as they did in the old horse-car era, but they are actually a direct aid to private automobiles and taxicabs, the chief competitors of the traction industry. Such charges merely constitute a special tax upon street railway companies which are passed on to the public in the form of higher rates and poorer service. They were justified perhaps when the electric lines made exorbitant profits in the absence of competition and effective regulation. Paving costs should be borne by taxpayers in general rather than by car riders or even by stockholders of traction companies. The facts that the Capital Transit Company operates busses as well as cars and also that the presence of tracks in a street may increase paving costs somewhat justify the assessment of part of these costs against the Company. It is questionable, however, as to whether these factors justify the payment of as much as half of the repaving costs.

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Future Competition. The merger agreement specifically encourages competition between street-cars and busses on the one hand and other transportation agencies on the other. It discourages, however, the establishment of competing railway and bus lines.

Competition of the first type was assured by amending the phrase giving the Transit Company the right to engage in the "transportation of passengers" to read "transportation of passengers by street railway or bus." This was an outgrowth of the fear that the Company might eventually monopolize all transit agencies in the District, including taxi-

¹⁴⁹ See Hearings on S. J. Res., 13, op. cit., pp. 79-81 and Report on Proposed Merger, op. cit., pp. 49-51, 99.

¹⁵⁰ See ibid., and Comparative Print, op. cit., pp. 23-24.

¹⁸¹ See Definitive Unification Agreement, p. 12; Hearings on S. J. Res. 13, op. cit., pp. 79-81; and House Report No. 1030, 72nd Cong., 1st Session, pp. 7-12.

¹⁸² See memorandum prepared by President Hanna of the Capital Traction Co. and included in House Report

No. 1030, op. cit., pp. 10-12, showing the extent to which relief from paving charges has been granted by state statute, state commission order, charter amendment, court decision, indeterminate permit law, franchise ordinance, and special agreement with local authorities throughout the United States.

¹⁵³ See Comparative Print, op. cit., pp. 5-6, and Definitive Unification Agreement, pp. 4-6.

cabs and sight-seeing vehicles. This same fear led to modification of the clause preventing the establishment of competing railway and bus lines without the prior issuance of a certificate of convenience and necessity by the Commission to make it apply only to agencies operating over a given route on a fixed schedule.¹⁵⁴

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In the writer's opinion, the restriction of the Capital Transit Company's operations to street-cars and busses is unfortunate. It is a reversion to the old idea of rigidity which characterized franchise regulation. Just as nobody 25 years ago was able to foresee the present importance of motor busses in the scheme of local transportation, so today nobody can foresee just what type of vehicles will be needed in the future. The only sound criterion as to the proper scope of operations is what will insure the best possible service to the public. The attempt to hamstring future operations of the Company is based on the belief that competition is necessary to regulate public utilities. It is an economic truism that the public interest can best be served through the monopolization of utility services, not only because of the advantages of unified service, but also because of the tendency of most utility companies to operate under decreasing cost conditions and, hence, to make possible lower rates as volume of business Not only should Washingincreases. ton's street railways and scheduled bus lines be completely unified, but there is good reason for including in the unified system taxicabs and sight-seeing busses. While it is probably true that the economic advantages of including such carriers in a unified system are not as clear as the case for unifying cars and busses, experience with taxicab operation in the District of Columbia has demonstrated the need of placing that service on a coordinate rather than a competitive basis with the mass transit agencies.¹⁵⁵

It is not to be denied that there are serious disadvantages of monopolization of the District's transport facilities. Experience has shown, for example, that stagnation tends to accompany monopoly. It should be remembered, however, that the competition necessary to prevent the Transit Company from stagnation already exists and will probably continue to exist. Private automobiles are undoubtedly the most serious competitors of street-cars and busses. 156 A more serious objection to monopolization of all agencies, including taxicabs, is the possibility of a paralyzing strike of transit workers. The transportation employees of the Capital Traction Company were completely unionized, being members of the Amalgamated Association of Street and Electric Railway Employees. The Washington Company operated on an open-shop basis. Since the merger, most of the former employees of this company have become members of the Amalgamated. A few cab drivers belong to a union.157 It is not unlikely that complete unification of transit agencies would result in more complete unionization. In view of recent labor tendencies, the possibility of a crippling strike on the Washington transit lines is by no means remote. On the other hand, working conditions on these lines have been generally satisfactory and the employees have been peaceable and well-behaved for many years. It

¹⁵⁴ Ibid., pp. 12-13.

¹⁸⁸ See second instalment of this article, op. cit., pp.

¹⁵⁶ See first instalment of this article, op. cit., pp. 284-285.

¹⁵⁷ See Report on *Proposed Merger*, op. cit., pp. 52-54, and second instalment of this article, op. cit., pp. 416-417. See also *Evening Star*, August 27, 1934, for account of attempt to form an A. F. of L. local cab-drivers

does not seem probable that serious labor difficulty will develop in the future, especially since lack of recognition of unions has proven to be one of the most fruitful causes of strikes and the Washington transit officials have already definitely recognized the Amalgamated. In any case, the strike possibility would not be much greater in case taxicabs were included in the unified system than if they were not included and should not be permitted to prevent complete unification if it is otherwise desirable.

The basic objection to monopolization, of course, is that it may result in higher profits for the Transit Company, higher fares, and poorer service. The sound method of insuring reasonable rates and good service is not to prevent monopoly and the possible gains therefrom but rather to regulate the utility so that most of the gains will pass to the public. If the Public Utilities Commission is unable or unwilling to protect the interests of the public, the government should take over the system and operate it as a government monopoly.

In conclusion, even if, in view of the present uncertainty as to whether taxicabs are subject to the Commission's jurisdiction and in view of Washington's abnormal taxicab situation, it is deemed wise to continue to keep taxicabs independent of the system for a time, this does not justify absolute restriction of the Company's operations to street-cars and busses. Eventually, Washington should build up a truly unified transportation system. 158

Relations with Regulatory Authorities. Aside from specific provisions requiring approval of the Public Utilities Commission for the various terms of the merger, the Joint Resolution prescribed in various ways the future relationship between the unified company and the regulatory authorities. A general clause affirming the Commission's power to regulate the Capital Transit Company to the same extent that it regulated the old companies was acceptable to all parties throughout the negotiations. 159 Other proposals, however, which related to the regulation of the Transit Company excited considerable controversy.

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One of these was the clause giving the Commission power to issue orders necessary to secure economies contemplated by the merger and to require reasonable extensions and or abandonments of tracks and other facilities. Spokesmen for the public insisted that the Commission should have absolute power to require extensions and abandonments in order to carry out the principle of unification promptly, but did not win their point until late in the negotiations. Such a provision is undoubtedly advantageous, as it does not make the Commission dependent upon the willingness of the transit officials to make the various changes necessary to develop a unified transportation service. It can push necessary changes in trackage, bus routes, etc., with the assurance that litigation will be minimized.160

A second controversial matter was the so-called "saving" clause which reserved to Congress the right to alter, amend, or repeal the merger resolution and the Transit Company's certificate of incorporation and, in case of such repeal, terminated within one year whatever franchise rights were created by the resolution. This clause was included in the Resolution in order to forestall any

¹⁶⁸ See supporting view of H. D. Brown, Chief of U. S. Bureau of Efficiency, in *Report on Proposed Merger*, op. cit., pp. 51-52.

¹⁶⁹ Comparative Print, op. cit., pp,5-6, and Definitive Unification Agreement, p. 6.

¹⁸⁰ Ibid., p. 7; Minority Report on S. J. Res. 13, pp. 2-3; and Evening Star, December 23, 1932.

possibility of the claim being made that approval of the merger plan made Congress a party to an irrevocable contract and divested itself of powers which the public interest demands that it retain.¹⁶¹

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In view of the widespread interest in regulation of holding companies, two provisions of the merger resolution are of significance. One provides that the Commission should retain its jurisdiction over the Washington Railway & Electric Company, even though the merger transformed it into a pure holding company. The other gave the Commission power to pass upon the reasonableness of charges made against the Capital Transit Company by any corporation or person holding a majority of its stock for services rendered. The District's regulatory body has thus, by means of a contract with utility interests, secured direct control over a holding company and over holding company management fees levied on an operating subsidiary two types of control which state utility bodies do not generally possess.162

The final controversial point relating to regulation of the Transit Company had to do with unification expenses. The public representatives were again successful in incorporating their view into the agreement. It was provided that the amount as well as the accounting treatment of the expenses involved in unification should be subject to approval by the Commission. Traction officials had urged that the public interest would be amply protected by merely empowering the Commission to determine whether these expenses should be charged to operating or capital accounts and that it would be impractical and productive of

unnecessary delay in bringing about effective unification if Commission approval of every item had to be secured. The modern conception of public utility regulation demands that commissions shall have power to pass upon the reasonableness of all major items of expense. This is especially true of unification expenses, in view of the known tendency of corporations to be rather extravagant in incurring such expenses which are to be passed on to the new consolidated company. Determination by the Commission of merely the accounting treatment of these items would not have been sufficient to protect the public interest. 163

One other matter should be considered in this connection, even though no mention is made of it in the merger resolution. No subject excited more controversy throughout the negotiations than the attempt on the part of the public representatives to include a provision amending the organic public utilities law of the District whereby the powers of the Supreme Court of the District of Columbia to review questions of fact as well as points of law in Commission orders would be curtailed. Traction officials flatly refused to consider a merger resolution which contained this provision. They contended, rightly, that this matter was not pertinent to the merger legislation and was merely an attempt on the part of the public representatives to make the utilities swallow a bitter pill along with the tasty viand which all parties recognized the merger itself to be. The Senate Committee wisely directed that this appeals provision be dropped from the merger resolution and treated as a separate measure. 164

¹⁶¹ See *ibid.*, Minority Report on S. J. Res. 13, pp. 10-11, and Committee Print of S. J. Res. 13, p. 23.

¹⁶² See ibid., pp. 21-22; Report on Proposed Merger, op. cit., pp. 55-58; and Mosher and Crawford, op. cit., pp. 351-366.

¹⁶³ See Definitive Unification Agreement, p. 13; Com-

parative Print, op. cit., p. 25.

¹⁶⁴ See Hearings on S. J. Res. 105, op. cit., pp. 15-33. For further discussion of the appeals provisions of the utilities law, see first instalment of this article, op. cit., p. 290; Hearings on S. 3558, 71st Cong., 2nd Session; and Evening Star., Jahuary 3, 1934.

Effects of the Merger

At the time of writing, the merger has been in effect a little over one year. The searcher for evidence of important results that can be attributed directly to the unification of the two old companies must labor in a rather barren field. Most of the expected improvements in service have not progressed beyond the discus-Many of the anticipated sion stage. economies have not been realized, because they are contingent upon extensive rerouting and other projected service improvements which have not as yet been accomplished. Failure to realize all benefits which the more optimistic of merger proponents had anticipated should not blind us to the fact that certain definite effects have been evidenced. These effects can be grouped under the three heads: effects on (1) service, (2) rates, and (3) finances.

Effects on Service. Throughout the merger negotiations, it was generally expected that unification would result in increasing the frequency and speed of service, in developing a transit system more in harmony with the traffic needs and civic requirements of the District, and in providing safer, more comfortable facilities for car and bus patrons. 165

Because of a peculiar combination of circumstances, not only have none of the above objectives been attained but the traction officials have been constantly on the defensive as a result of their inability to furnish as satisfactory service as had been furnished prior to the merger. The chief cause of this situation has

been the great increase in population and governmental activity. affected service not only by swamping the Transit Company with new riders but also by increasing traffic congestion throughout the District and thus slowing down the movement of cars and busses. The introduction of the weekly pass shortly after the merger went into effect intensified the demand for transportation. The severe winter of 1934, with its accompanying snow, ice, and sickness of transit employees was an important factor in explaining service deficiencies. While the traction interests can justly be blamed for failing to foresee and make provision for the increased volume of business, in the main the factors responsible for poor service during 1934 were largely beyond the control of the Transit Company. 166

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Failure to improve service along the lines indicated in the first paragraph of this section can be explained in various other ways. Increased speed and frequency as well as the development of a balanced system to harmonize with traffic needs and civic requirements necessitate extensive rerouting of car and bus lines. Rerouting, in turn, with its attendant expense and forced changes in riding habits, traffic routes, and real estate values, must be predicated upon a thorough study of the present and future transit needs of the Capital and the characteristics of a system capable of meeting those needs. Barren though the first year of the merger has been as regards actual improvements in service,

¹⁶⁵ See second instalment of this article, op. cit., pp. \$14-415, for a discussion of service problems of the Washington transit system.

¹⁶⁶ As late as October, service was so unsatisfactory that the Rhode Island Citizens' Association petitioned the Commission for relief and distributed "transit delinquency cards" to its members to be checked and turned in to the Commission as specific grounds for complaint appeared. Scarcely a day went by without

some citizens' group making formal complaint to the Commission. The Company officials admitted the serious situation, but presented data to the effect that they were doing everything possible to remedy the situation. See, for example, President Hanna's statement that, during the first four months of 1934, the Company increased the number of cars in operation 18%, the number of busses 20%, and the number of employees 12%. See Evening Star, February 5, 14-17, 23, May 9, and October 3, 1934.

excellent progress has been made in studying rerouting problems. The Utilities Commission, the National Capital Park and Planning Commission, the various citizens' associations, and the Capital Transit Company itself have made rerouting the chief order of business during the past year. At public hearings held intermittently between August and November, no less than 10 detailed, comprehensive rerouting plans and a host of supplementary suggestions were considered. 167 While these various proposals are so detailed and in some respects so conflicting as to defy summarization, they do possess certain common aims and objectives. These can be stated as follows: (1) more direct street-car lines for the shorter, more congested arteries operated through the downtown districts and into the densely populated residential areas; (2) a system of fast express bus-lines connecting outlying sections with the downtown area; (3) a system of cross-town or outer bus lines affording easy access between outlying parts of the city without entering the downtown area; (4) establishment of bus-lines where rebuilding of tracks is scheduled, except in congested areas; (5) substitution of loops for terminal stubs in the downtown area; (6) reduction of trackage from four to two on such congested streets as 14th Street, G Street, and New York Avenue; and (7) use of car lines running through the downtown area rather than to the downtown area.

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While it is difficult to predict which of the various objectives described above will be attained and just when such changes will become effective, it is reasonable to expect that most of them will be realized in the near future. The whole matter is under consideration by the Utilities Commission and the Company stands ready to spend between \$1,000,000 and \$1,500,000 for rerouting as soon as the Commission gives the word. It is unlikely, however, that the Commission will adopt one definite rerouting plan; it is more likely to make piecemeal changes, observing carefully the effects of each change upon the system as a whole. It has already issued a few specific orders providing for use of busses in place of street-cars, rerouting of car lines, and relocation of tracks. 168

Realization of the third general objective as to service—the provision of safer, more comfortable facilities—is largely a matter of securing new equipment. The antiquity, lack of heat, poor ventilation, and rough riding qualities of Washington's street-cars have become proverbial among regular riders and have been admitted, to some degree, by transit officials. Failure to introduce new rolling stock has been attributable largely to three factors: (1) poor financial condition of the industry up until recent months, (2) lack of progress made by manufacturers of street-cars in perfecting new models which would have any real advantage over cars now in operation, and (3) the remarkable strides taken by bus manufacturers in developing large capacity, comfortable, economical vehicles. Even after the Company's financial condition began to improve, its officers hesitated to purchase new cars which might soon become obsolete or be replaced by busses. Late in 1934, however, the Capital Company finally placed an order for 20 new-type street-cars. It is reasonable that further acquisition of new equipment should

¹⁶⁷ Rerouting plans were worked out by John Beeler, an expert retained by the Commission, Fred Sager, the Commission's Chief Engineer, Harland Bartholomew of the Park and Planning Commission, and W. B. Bennett of the Transit Company.

¹⁶⁸ For detailed discussion of the rerouting plans and public reaction to these plans, see *ibid.*, August 3-December 20, 1934, inclusive, especially August 7-19 and October 3, 5, 22, and 24, 1934.

await definite decision as to the extent to which busses are to be substituted for cars in the District and the completion of experiments now in progress looking toward the perfection of faster-accelerating, prompter-braking cars with rubber-cored wheels.¹⁶⁹

Effects on Rates. While unification of the transit properties has not caused the general fare of 10 cents or 4 tokens for 30 cents to be reduced, the average fare dropped from slightly over 8 cents during the 11 months preceding the merger to approximately 6½ cents during the first 11 months of 1934, the lowest point since 1919. This is explained by the introduction of the weekly pass during the first week of unified operations and by elimination of the inter-company transfer charge of one-cent.

Not only has the merger resulted in an actual reduction in fare but it has also benefited transit patrons by introducing a more convenient and more popular rate structure. The weekly pass is well liked as it reduces the congestion incident to entering cars and thus reduces the lost time involved in stopping for passengers. The intangible benefits derived from eliminating the one-cent transfer are obvious, as that charge was a constant source of irritation to passengers and transit employees alike.

Although some allowance should be made for the fact that the weekly pass might eventually have been introduced had the two traction companies not united, the merger has undoubtedly been a great success as far as its effects upon fares are concerned. It is within the realm of possibility, also, that economies incident to rerouting may make possible a reduction in basic fares and in the price of the weekly pass.

Financial Effects of the Merger. The fact that the operations of the unified company have been so much more successful than were those of its predecessors during the years prior to the merger has been widely heralded as evidence of the financial benefits of unification. Careful analysis, however, shows that the great increase in operating income has been attributable not so much to economies incident to unification as to increase in the number of passengers (Table IX). While operating income¹⁷¹ during the first 11 months of 1934 was more than twice as large as in 1933, the number of revenue passengers increased approximately 77%, operating expenses per car-mile declined less than 6%, and operating expenses per bus-mile actually increased 10%.172 These facts do not mean that the merger has not been of distinct financial benefit. Unification is undoubtedly responsible for a part of the increase in passengers in so far as it made possible the effective use of the weekly pass and the elimination of the one-cent transfer charge between streetcars of the two companies. Then, too, even a small decline in operating expenses per car-mile during a period of rising labor and material costs is no small accomplishment and indicates that the merger has resulted in some economies. In general, however, it is inaccurate to attribute to unification the great improvement in the financial con-

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¹⁶⁰ A major factor in explaining the stagnancy of car engineering has been the almost complete cessation of demand for new equipment during the long depression of the traction industry. Recent revival of the industry should stimulate the development of new types of equipment. See President Hanna's statements as reported in *ibid.*, July 16, and November 27, 1934.

¹⁷⁰ See second instalment of this article, op. cit., p. 405.

¹⁷¹ Net income is not used as a basis of comparing

operations before and after the merger, because of the distorting influence of the \$1,800,000 dividend income received from the Potomac Electric Power Co. by the Washington Co. during 1933.

¹⁷² The \$330,000 reduction in depreciation charges is not a real economy, as it was the result of a temporary change in accounting methods. See section headed "Accounting Methods," supra, p. 91.

TABLE IX. COMPARISON OF TRANSIT OPERATIONS IN THE DISTRICT OF COLUMBIA BEFORE AND AFTER THE MERGER OF DECEMBER 1, 1933* (000's Omitted)

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Item	Capital Traction and W. R. & E. Cos. (com- bined), 1st 11 months, 1933	Capital Transit Company, 1st 11 months, 1934	
Passenger revenues—rail	\$ 5,504 627 312	\$ 6,608 869 213	
Total operating revenues	\$ 6,443	\$ 7,690	
Operating expenses and taxes: Way and structures† Equipment† Power. Conducting transportation Traffic. General and miscellaneous Bus† Depreciation Taxes. Total operating expenses and	\$ 369 359 460 2,089 6 595 544 870 539	\$ 402 413 481 2,458 15 716 757 540 553	
Operating income. Non-operating income. Interest on funded debt. Other deductions from gross. Net income.	\$ 5,830 \$ 613 2,081 \$ 829 121 \$ 1,744	\$ 6,335 \$ 1,355 155 610 13 \$ 887	
Total revenue passengers	79,407 72,380 7,027 14,012 4,109	140,343 127,624 12,719 17,215 5,193	
Operating revenues per car-mile Operating revenues per bus-mile Operating expenses per car-mile‡ Operating expenses per bus-mile‡	\$0.41350 .15780 .27663 .13239	\$0.39075 .16731 .26048 .14580	

^{*}Based on monthly reports of the companies filed with the Public Utilities Commission. The Capital Transit Company's report for December, 1933, is omitted in order to facilitate comparison of operations during the first 11 months of each

dition of transit lines during 1934. The increased population of the Capital area and the increased tempo of government activity were primarily responsible alike for the deterioration in service during the past year and for the financial improvement.

Government Ownership

No discussion of the possible solutions of any public utility problem is complete without careful consideration of government ownership. While little or no attention has been given to this means of

handling Washington's transportation problem, a recent statement by Senator McCarran of Nevada, a member of the Senate District Committee, that he intends to introduce during the 1935 session of Congress a bill providing for public ownership of all utilities in the District, promises to bring this question into the limelight.173

In the writer's opinion, there are three sets of circumstances, any one of which would justify government ownership and operation of the District's transit system. The first is the making of large profits by private utilities through charging excessive rates of fare and or furnishing poor service. The second is the inability of the privately operated system to earn sufficient revenues to cover operating expenses and attract sufficient capital to maintain a high calibre of service. If the service is indispensable and yet cannot be made self-supporting, the only alternative is to run it as a taxsupported enterprise under government control. The third condition under which public ownership would be advisable would be the possession by a considerable portion of the local residents of a social philosophy which would favor giving consumers control over essential services and a favorable political environment for making such control effective.

None of these circumstances is present in the District of Columbia today. It is conceivable, though not probable, that the Capital Transit Company's operations will continue to improve until its profits become excessive. Before that point is reached, the Public Utilities Commission should initiate proceedings looking toward a reduction of fares and should see that proper service standards are maintained. On the basis of that

year.

† Exclusive of depreciation.

† Exclusive of depreciation and taxes.

§ This includes \$1,800,000 income from dividends on Potomac Electric Power Company stock which was owned by the Washington Company and retained in its possession after the

¹⁷⁸ See Evening Star, November 20, 1934.

body's past record, the public has little to fear that it will be derelict in its duty. If it should fail to keep rates reasonable and service satisfactory, then government ownership could be considered. The rerouting proceedings which are now under consideration give every promise of improving service and effecting economies which may result in lower rates. It would be unfortunate indeed if injection of the controversial government ownership issue into current utility discussions should prevent or delay these greatly needed changes in the existing transportation system.

Prior to the upturn in revenues late in 1933, it appeared as if the second condition mentioned above had been reached. The continued decline in earnings for several years raised the question as to whether the transit lines were self-supporting. It is possible that the lessening of government activity and the consequent reduction in traffic which is likely to occur not many years in the future may again raise this question. If it does, government ownership will be entitled to serious consideration. Under present conditions, however, the transit companies are distinctly self-sustaining and there is no necessity of making the transit system a government-controlled, tax-supported agency.

Contrary to Senator McCarran's view that Washington is "an ideal community" in which to consider a public ownership program, the writer's opinion is that it is a less desirable place for such a program than almost any other place within the United States. While it is impossible to generalize as to the social philosophy of residents of the District, the political environment is distinctly unfavorable to government ownership. Government ownership of the transportation system of the District would give the patrons of that system no more voice

in controlling service and fares than they have today, as the District Government is controlled by Congress and not by the residents of the area. As a matter of fact, car and bus riders would probably have less control over transit problems under "Congressional" ownership than they have today. Through their citizens' associations and the Public Utilities Commission, they are able to bring considerable pressure on the private utilities. Congress, on the other hand, has not been noted for its response to the wishes of the residents of the District on various governmental matters in the past. From a political or "public welfare" point of view, public ownership of transit lines and of other public utilities should be considered only if and when residents of the District of Columbia are given some voice in controlling their own affairs or at least some voice in Congress.

Conclusion

The local transportation problem in the District of Columbia is by no means solved. While greater progress has been made since the upturn in traffic in October, 1933 than had previously been made in many years, certain specific steps must be taken if this progress toward solution of the problem is not to be lost.

First, the rerouting program must be pushed to completion without delay and careful thought given to the extent to which busses should replace street cars and to what extent newer forms of rapid transit, such as subways and elevated lines, should be introduced. Second, the power of the Public Utilities Commission to regulate taxicabs must be clarified and strengthened by Congress and the Commission must work toward making the taxicab industry a part of the unified transit system of the District. Third, the Transit Company should supplement its

use attr peri trar Tra the dela proj use of the weekly pass with such other attractive rate systems as the nickel permit, the zone fare, and the universal transfer. Fourth, the Washington Rapid Transit Company should be merged with the Capital Transit Company without delay. Fifth, the fair value of the transit properties and the method of handling

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depreciation should be determined as soon as possible in order to remove the cloud of uncertainty which has overhung fare regulation for many years. Finally, appeals from the orders of the Public Utilities Commission should be limited to questions of law rather than to questions of fact as well.

Book Reviews

Foreman, Clarence J. RENT LIENS AND PUBLIC WELFARE. New York: Macmillan

Co., 1932. pp. vi, 207. \$.

In his preface the author makes the serious charge that "courts are constantly warping the law in favor of property owners and creating economic anarchy" through their interpretation of the nature of the rent lien. His thesis is that legislatures and courts have gradually increased the rights of the landlords at the expense of the commercial classes who buy the products of the tenant. In the first stage of the evolution of the rent lien, the landlord could secure the payment of rent by seizing a part of the tenant's crop while it was still on the In this stage the matter was premises. purely a private landlord-tenant relationship. In the next stage, however, the purchaser of the tenant's crop became involved, because the landlord was granted the right to seize goods taken from the premises without notice of lien; he became still more involved when he was held liable not only for the property, but for its value whenever it has been sold to a third person. In the final stage, the purchaser was considered liable even without notice or knowledge of any circumstances indicating the existence of a landlord's lien. This, the author holds, is an infringement of the rights of the commercial classes who buy from tenants, which means 40% of all the farmers of the United States. In this way the subject of the rent lien touches the principles of the freedom of trade and commerce and becomes a matter of public policy.

As a remedy the author suggests definite legislation to prevent the removal of property from the premises unless the tenant has made definite arrangements with the landlord for his rent, or has received permission to sell the products. Furthermore, the tenant should be obliged to furnish a guarantee that the property so purchased is free of all liens. A fine double the amount of the lien is to be imposed to reimburse the landlord in case the statute is violated

(pp. 193-4).

The reviewer does not question the thesis set forth by the author. That the "innocent purchaser" is made the victim is ably presented and substantiated by many court

decisions. However, the question remains whether the cases are numerous enough to warrant the alarming statements made in the preface. Tenants no doubt have the opportunity to sell property in which an absentee owner has rights, but merchants living in communities where tenants are numerous generally know all the landlords and renters in their neighborhood, and know how to safeguard their own interests in

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dealing with them.

There is also a grave question whether the remedies suggested (pp. 192-4) are adequate. Several of them are available at the present time. The double fine may be able to reach a tenant who has some property, but means nothing in the case of a cropper who furnishes only his labor and whose share of the crop is mortgaged before it is "made." Furthermore, in so far as the tenant is considered "largely the root of the evil," and the penalty for the removal and bona fide sale of property falls upon him rather than on the purchaser (pp. 190-1), the suggestions made tend to strengthen the economic and legal position of the landlord (and therefore the property owner) as against the tenant or non-property holder.
George S. Wehrwein.

Dimock, Marshall E. British Public Utilities and National Development. London: George Allen & Unwin, Ltd.,

1933. pp. 349.

In his British Public Utilities and National Development, Professor Dimock undertakes to analyze the policy, organization, management, and control of Great Britain's four national utilities-railways, telephone and telegraph, national electricity planning, and broadcasting-as well as certain local utilities, and to evaluate their role in national development. He writes primarily for "the intelligent citizen who is interested in public affairs" but also for the public utility official, the labor leader, the person in public office, and the university student. A proper appraisal of public utilities, he urges, requires a "rediscovery" of the old political economy and he pledges his efforts to reunite economics, public administration, law, and philosophy in his consideration of British utilities. These highly commendable objectives, paraphrased from his preface, outline an ideal project for a scholar properly equipped. Such an appraisal, to be of value, must rest upon much arduous preliminary research which unhappily had not been done for these four national utilities. Unfortunately, the temptation to produce "the first study which has appeared dealing in a comprehensive manner with British public service undertakings" has led Professor Dimock to finish in nine months what a more timorous author would not have attempted short of several years. The

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Aside from his final chapter, Professor Dimock seems not so much author as editor. By a judicious selection of secondary sources and memoranda supplied by the public bodies under investigation, he presents a broad picture of the development of social control and of the present conflict of opinion as to merits and demerits of present public bodies through which it is exercised. But one is confused for lack of a standard of effective public administration or a criterion by which to evaluate the operations of the public bodies described. Professor Dimock's conclusions often have a "Zarathustrian" quality indifferent alike to statistical test and theoretical considerations. For instance, he quotes with approval the opinion that "no ground exists for branding such competition [motor transport with railways] as unfair unless the road service is not contributing its proper share to road main-tenance or rates and taxes," and concludes that "so long as this view obtains, the public may be assured that the national economy is being soundly and fairly developed" (p. 114). Has he never heard of the practice of "skimming" a market, thus threatening the continuity in that area of basic services which cannot be made to cover total costs apart from the paying business sequestered by an alternative medium itself unable to render those essential services? Again, one is perplexed when the author apparently objects to using broadcasting receipts for general governmental purposes (p. 278), whereas he brands as 'unfair discrimination" the law which limits the diversion by local authorities of revenues from their own electricity undertakings to the aid of local taxation (p. 249). Would Professor Dimock defend the principle of taxation underlying this practice?

The two weakest chapters are those deal-

ing with electricity planning. Neither the organization of the Central Electricity Board nor its relation to the supply industry is adequately handled and the status of Joint Electric Authorities (pp. 205 and 257), the treatment accorded municipalities (pp. 215-16), and the protection to owners of selected stations (pp. 216 and 223) under the plan are dubiously interpreted for lack of intimate knowledge of the complex factors involved.

Professor Dimock's final chapter is a good essay on certain general aspects of public utility control and administration. Albeit its connection with the foregoing study is tenuous, it arouses a feeling that, were the breadth of his field delimited in proper ratio to the time available, he might have made a real contribution. It is the more disappointing that he has spread himself so thinly as to produce merely a better than average book of a type far too common.

MELVIN G. DE CHAZEAU.

Timoshenko, Vladimir P. World Agriculture and the Depression. Ann Arbor: University of Michigan, 1933. pp. 123. \$1.00.

Mr. Timoshenko treats the causes and the nature of the agricultural depression from an international point of view. His picture is composed of a few broad strokes across a short canvas. World production, supplies, demand, and prices during the past decade are interpreted in the light of international trade movements, investments, and debts. One is at times amazed at his courage in attempting to assemble and interpret world statistics on such, as yet, intangible items as stocks on hand, and in a lesser measure physical quantities of goods moving between countries.

The author is of the opinion that there is ample basis for explaining the decline in agricultural prices without leaning heavily upon monetary policies or the supply and value of gold. He makes it clear that the causes are more than national in scope.

Production of agricultural staples increased more rapidly than did the demand for these staples. Stocks accumulated even during the period of prosperity. This makes evident the necessity for an adjustment of supplies of agricultural commodities in keeping with the demand for those commodities.

A number of reasons may be assigned for this overexpansion in production. Increases in acreage are of the greatest importance, perhaps, but shifts in diets, such as the replacement of cereals by fruits and vegetables, and in other fields the substitution of rayon for silk and cotton were also influential. The important point to be emphasized is that stocks of agricultural commodities began to accumulate some years before the depression, while the accumulation of supplies of other raw materials, such as minerals, followed or coincided with the crisis.

Huge agricultural stocks depressed the prices of these commodities which in turn resulted in decreased purchasing power of the agricultural classes. Decreased purchasing power of so large a group reacted

unfavorably upon industry.

At the very time stocks of agricultural products were accumulating, European countries were expanding their agriculture by governmental protection and encourage-These actions magnified the maladjustment. The author holds, however, that European countries cannot be expected to permit their agricultural output to drop below pre-war levels, and that exporting countries, such as the United States, must adjust their exportable surpluses to European needs above this level. Consuming countries are not likely to lower their tariffs to more reasonable levels until supplies diminish and prices are raised to a point covering costs of production in exporting countries. Hence, the primary remedy put forth is the adjustment downward of output in agricultural export coun-

Monetary and financial forces hastened the depression, but the shortage of money was not responsible for the decline in prices which began during times of prosperity when credit was overexpanded. Restoration of price levels through monetary manipulations would not restore the equilibrium between agricultural supplies and the demand for them. Debts must be adjusted to the price level. The author doubts if the raising of prices to the level of those obtaining when the debts were incurred is a happy solution. This level induced overproduction. Perhaps it is best to scale down debts to a lower

price level.

Mr. Timoshenko's thesis that the obligation of reducing production rests largely with the agricultural-surplus-producing countries is quite in harmony with the philosophy of the Agricultural Adjustment program as originally conceived and put into execution. The reviewer takes mild exception to this point of view. It leaves out of consideration the possibility of increasing standards of living and enhancing demand, through wider and freer international trade movements. To be sure, this may be difficult of achievement, but is it not worth trying?

ASHER HOBSON.

Schlesinger, Arthur M. The RISE OF THE CITY. New York: Macmillan Co., 1933. pp. xvi, 494. \$4.

As Volume X in the series, "A History of American Life", this book deals rather more with the social than with the strictly economic aspects of American urban life.

However, the period which the book describes was a crucial one in American economic history. In the years 1878-98 "the United States . . . was trembling between two worlds, one rural and agricultural, the other urban and industrial. In this span of years the fateful decision was made." Consequently, all forces which were shaping this trend toward a predominantly urban and industrial civilization take on special significance.

To the student of land and public utility onomics the chapter on "The Urban economics the chapter on World" is of particular interest. Here the author has described the rise of the city primarily in terms of the technological improvements which made urban living possible. Developments in transit, light, and communication occurred in rapid succession in these 20 years, giving a tremendous impetus to urban growth and profoundly influencing the structure of American cities. The speed of this growth and its planlessness naturally led to many mistakes and evils which future generations will have to remedy. But the pattern of American urban life was in large measure set in these last two decades of the 19th century.

HELEN C. Monchow.

LUME :